

---

# Vital and Health Statistics

---

## National Hospital Discharge Survey: Annual Summary, 1991

Series 13:  
Data From the National Health Survey  
No. 114

This report presents statistics on the utilization of non-Federal short-stay hospitals based on data collected through the National Hospital Discharge Survey from a national sample of the hospital records of discharged inpatients. Estimates are provided by the demographic characteristics of patients discharged, geographic region of hospitals, conditions diagnosed, and surgical and nonsurgical procedures performed. Measurements of hospital use include frequency, rate and percent of discharges and days of care, and average length of stay.

---

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Public Health Service  
Centers for Disease Control and Prevention  
National Center for Health Statistics

Hyattsville, Maryland  
July 1993  
DHHS Publication No. (PHS) 93-1775

#### **Copyright Information**

All material appearing in this report is in the public domain and may be reproduced or copied without permission; citation as to source, however, is appreciated.

---

#### **Suggested Citation**

Graves EJ. National Hospital Discharge Survey: Annual summary, 1991.  
National Center for Health Statistics. Vital Health Stat 13(114). 1993

---

Library of Congress Catalog Card Number 89-657616

---

For sale by the U.S. Government Printing Office  
Superintendent of Documents  
Mail Stop: SSOP  
Washington, DC 20402-9328

## **National Center for Health Statistics**

Manning Feinleib, M.D., Dr.P.H., *Director*

Jack R. Anderson, *Acting Deputy Director*

Jacob J. Feldman, Ph.D., *Associate Director for Analysis and Epidemiology*

Gail F. Fisher, Ph.D., *Associate Director for Planning and Extramural Programs*

Peter L. Hurley, *Associate Director for Vital and Health Statistics Systems*

Robert A. Israel, *Associate Director for International Statistics*

Stephen E. Nieberding, *Associate Director for Management*

Charles J. Rothwell, *Associate Director for Data Processing and Services*

Monroe G. Sirken, Ph.D., *Associate Director for Research and Methodology*

David L. Larson, *Assistant Director, Atlanta*

## **Division of Health Care Statistics**

W. Edward Bacon, Ph.D., *Division Director*

Thomas McLemore, *Deputy Director*

Robert Pokras, *Chief, Hospital Care Statistics Branch*

Manoochehr K. Nozary, *Chief, Technical Services Branch*

---

### *Cooperation of the U.S. Bureau of the Census*

Under the legislation establishing the National Health Survey, the Public Health Service is authorized to use, insofar as possible, the services or facilities of other Federal, State, or private agencies.

In accordance with specifications established by the National Center for Health Statistics, the U.S. Bureau of the Census, under a contractual arrangement, participated in planning the survey and collecting the data.

---

# Contents

Introduction.....	1
Highlights.....	3
Trends .....	4
Diagnoses.....	6
Procedures.....	9
Patients with HIV diagnoses.....	13
Hospital deaths.....	15
Newborn infants .....	17
References.....	18
List of detailed tables .....	19

## Appendixes

I. Technical notes on methods.....	53
II. Definitions of certain terms used in this report .....	61

## Text tables

A. Selected measures of short-stay hospital utilization: United States, selected years 1965–91 .....	4
B. Number and rate of patients discharged from short-stay hospitals and of days of care, and average length of stay, by age: United States, 1989, 1990, and 1991.....	5
C. Number and rate of patients discharged from short-stay hospitals and of days of care, and average length of stay, by selected first-listed diagnostic categories: United States, 1991 .....	7
D. Number and rate of patients 65 years of age and over discharged from short-stay hospitals, and average length of stay, by age and selected first-listed diagnoses: United States, 1991 .....	8
E. Number of patients discharged from short-stay hospitals with and without procedures and percent with procedures, by selected characteristics: United States, 1991 .....	9
F. Number and rate of all-listed surgical procedures for patients discharged from short-stay hospitals, by selected surgical categories: United States, 1991 .....	10
G. Number and rate of all-listed nonsurgical procedures for patients discharged from short-stay hospitals, by selected nonsurgical categories: United States, 1991 .....	10
H. Number and rate of all-listed surgical procedures for patients 65 years of age and over discharged from short-stay hospitals, by age and selected procedure categories: United States, 1991.....	11
J. Number and rate of all-listed nonsurgical procedures for patients 65 years of age and over discharged from short-stay hospitals, by age and selected procedure categories: United States, 1991.....	11
K. Selected measures of hospital utilization for patients discharged from short-stay hospitals with human immunodeficiency virus (HIV) diagnoses: United States, 1984–91 .....	13
L. Number and rate of patients with human immunodeficiency virus (HIV) diagnoses discharged from short-stay hospitals, by selected characteristics: United States, 1989–91 .....	14

M. Number of deaths and fatality rate of patients discharged from short-stay hospitals, by sex and age of patient: United States, 1991..... 15

N. Number of deaths and fatality rate of patients discharged from short-stay hospitals, by age and selected categories of first-listed diagnosis: United States, 1991..... 15

O. Average length of stay of patients discharged from short-stay hospitals, by discharge status, sex, and age: United States, 1991..... 16

P. Number, percent distribution, and average length of stay for newborn infants discharged from short-stay hospitals, by sex and geographic region: United States, 1991 ..... 17

Q. Number and average length of stay of newborn infants discharged from short-stay hospitals, by sex and health status: United States, 1991..... 17

R. Number of all-listed diagnoses for sick newborn infants discharged from short-stay hospitals, by sex and selected diagnostic categories: United States, 1991 ..... 17

---

Symbols	
---	Data not available
...	Category not applicable
-	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500 where numbers are rounded to thousands
*	Figure does not meet standard of reliability or precision

---

# National Hospital Discharge Survey

by Edmund J. Graves,  
Division of Health Care Statistics

## Introduction

This report provides national estimates of the use of non-Federal short-stay hospitals during 1991. Detailed tables present data for selected demographic characteristics of discharged patients, the geographic region of the hospital where patients were treated, conditions diagnosed, and surgical and nonsurgical procedures performed. Text tables show information on special topics including trends, the elderly, patients with human immunodeficiency virus (HIV) diagnoses, hospital deaths, and newborn infants.

The statistics in this report are based on data collected by means of the National Hospital Discharge Survey (NHDS), a continuous survey that has been conducted by the National Center for Health Statistics (NCHS) since 1965. The data for the survey come from a sample of inpatient records that are obtained from a national sample of non-Federal general and short-stay specialty hospitals located in the United States. Approximately 274,000 medical records from 484 participating hospitals were included in the 1991 survey.

The original universe for the survey consisted of 6,965 short-stay hospitals contained in the 1963 National Master Facility Inventory of Hospitals. The universe was updated periodically from lists of hospitals provided by the American Hospital Association. A description of the development and design of the original NHDS, which was in operation from 1965 through 1987, has been published (1).

Beginning in 1988, the NHDS was redesigned in order to link it with other surveys conducted by NCHS and to improve efficiency through the use of information and technologies that were not available when the survey was first designed in 1964. Differences between NHDS statistics based on the 1965–87 sample and statistics based on

the new sample may be due to sample design rather than to real changes in hospital use patterns.

The redesigned survey was based on a new three-stage stratified sample that came from hospitals contained in the April 1987 SMG Hospital Market Database (2). Only hospitals accepting inpatients by August 1987 were included. In 1991 the sampling frame was updated to include hospitals from the 1991 SMG Hospital Database (3). The definition of hospitals in the NHDS was modified slightly in the redesign. Prior to 1988, hospitals with an average length of stay of 30 days or more were excluded. Beginning in 1988, general medical and surgical and children's general hospitals were included regardless of the overall average length of stay of the inpatient population. However, the term "short-stay" will continue to be used because 98 percent of hospitals in the NHDS universe fall into this category. A description of the new design, data collection procedures, and estimation process can be found in appendix I.

Types of measurements shown are frequencies, rates, and percent distributions of discharges and days of care, and average lengths of stay. The estimates are presented by age, sex, race, and expected source of payment of the patients discharged, and by geographic region of the hospitals (tables 1–4). Statistics on women with deliveries (table 5), conditions diagnosed (tables 6–21), and procedures performed (tables 22–29) are also shown by patient and hospital characteristics. Data for newborn infants are included only in the section titled "Newborn infants." Because these data are based on a sample, they may not agree with data on births published in *Vital Statistics of the United States*.

Medical data for hospitalized patients are coded according to the *International Classification of Diseases, 9th Revision, Clinical Modification*, or ICD–9–CM (4). A maximum of seven diagnoses and four procedures were coded for each medical record in the sample. Although diagnoses included in the ICD–9–CM section titled "Supplementary classification of external causes of injury and poisoning" (coded E800–E999) are collected in the NHDS, these diagnoses are excluded from the report. The conditions diagnosed and procedures performed are presented by major diagnostic and procedure groups of the ICD–9–CM. Within these groups, some specific categories were selected for presentation because of large frequencies or because they are of special interest. More detailed

---

This report was prepared in the Division of Health Care Statistics. Jean Kozak of the Hospital Care Statistics Branch assisted in developing the style and content of this report. Maria Owings, also of the Hospital Care Statistics Branch, and Michael Monsour and Michael Mungiole of the Technical Services Branch produced estimates of reliability. Dorothy Graham of the Technical Services Branch verified the data in the report, and Charles Adams and Malcolm Graham of the Technical Services Branch did computer programming required for the report. This report was edited by Klaudia Cox and typeset by Annette Gaidurgis of the Publications Branch, Division of Data Services.

data are presented in other reports in Series 13 of the *Vital and Health Statistics* reports.

Familiarity with the definitions used in NHDS is important for interpreting the data and for making comparisons with statistical data on short-stay hospital utilization that are available from other sources. Definitions of the terms used in this report are presented in appendix II.

Information on short-stay hospital utilization is also collected through the National Health Interview Survey (NHIS), conducted by NCHS. Estimates from this survey generally differ from those from NHDS because of differences in data collection procedures, populations sampled, and definitions. Data from the NHIS are published in Series 10 of the *Vital and Health Statistics* reports.

# Highlights

- During 1991, an estimated 31.1 million patients, excluding newborn infants, were discharged from non-Federal short-stay hospitals. These patients used an estimated 199.1 million days of care.
- The number of discharges and days of care did not change significantly from 1988 through 1991.
- Of all patients discharged from short-stay hospitals, 19 percent were 75 years of age and over.
- Private insurance was the expected principal source of payment for 37 percent of patients discharged during 1991, and 36 percent had Medicare as their expected source of payment.
- Approximately half of the days of care were used by patients with Medicare as their expected source of payment.
- Deliveries and heart disease were leading causes of hospitalization during 1991. These two diagnoses accounted for 4.0 and 3.7 million discharges, respectively, and together made up 25 percent of all first-listed diagnoses.
- Approximately 22 percent of patients 65 years of age and over discharged from short-stay hospitals had been admitted for heart disease.
- At least one procedure was performed on 68 percent of patients discharged from short-stay hospitals in 1991.
- Four obstetrical procedures (episiotomy, cesarean section, repair of current obstetric laceration, and artificial rupture of membranes) accounted for 18 percent of the surgical procedures performed on hospital inpatients.
- Five nonsurgical procedures were performed more than 1 million times: arteriography and angiocardiology using contrast material (1.7 million), diagnostic ultrasound (1.6 million), computerized axial tomography (1.5 million), fetal EKG and fetal monitoring (1.3 million), and respiratory therapy (1.2 million).
- Approximately 14 percent of all surgical procedures and 21 percent of all nonsurgical procedures were performed on patients 75 years of age and over.
- In 1984, 10,000 patients with HIV diagnoses were discharged from short-stay hospitals. By 1991, this number had increased to 165,000.
- In the 1989–91 period, 80 percent of patients with HIV were male, three-fourths were 25–44 years of age, half were white patients, and 40 percent were hospitalized in the Northeast.
- In 1991, 3.0 percent of patients discharged from short-stay hospitals were discharged dead.
- Approximately 17 percent of hospitalized patients had first-listed diagnoses of heart disease or malignant neoplasm, but 39 percent of the deaths that occurred in short-stay hospitals were the result of either of these two diseases.



# Trends

In 1991 an estimated 31,098,000 inpatients were discharged from short-stay hospitals (table A). These patients used a total of 199,099,000 days of care and had an average length of stay of 6.4 days. The number and rate of discharges and days of care for short-stay hospitals generally increased from 1965 through the 1970's, but declined during the 1980's. However, since 1988 the number of discharges and days of care have not changed significantly. In 1988 and 1991 there were approximately 31.1 million discharges, and the number of days of care was 203.7 million in 1988 compared to 199.1 million in 1991. The

average length of stay has gradually declined since 1965. The 1991 average stay was 1.4 days (18 percent) shorter than the average stay in 1965.

Hospital use measures are shown by age for 1989, 1990, and 1991 in table B. During these three years, 37–38 percent of patients discharged from short-stay hospitals were 15–44 years of age and 33–35 percent were 65 years of age. Patients 75 years of age and over made up 18–19 percent of total discharges, and they used 26–27 percent of total days of care. All patients 65 years of age and over accounted for 45–47 percent of total days of care.

**Table A. Selected measures of short-stay hospital utilization: United States, selected years 1965–91**

[Discharges from non-Federal hospitals. Excludes newborn infants]

<i>Measure of utilization</i>	<i>1965</i>	<i>1970</i>	<i>1975</i>	<i>1980</i>	<i>1985</i>	<i>1990</i>	<i>1991</i>
Number of discharges in thousands . . . . .	28,792	29,127	34,043	37,832	35,056	30,788	31,098
Rate of discharges per 1,000 population . . . . .	150.3	144.3	159.2	167.7	147.9	123.5	124.1
Number of days of care in thousands . . . . .	225,011	226,445	262,389	274,508	226,217	197,422	199,099
Rate of days of care per 1,000 population . . . . .	1,174.3	1,121.6	1,227.3	1,217.0	954.4	791.7	794.6
Average length of stay in days . . . . .	7.8	7.8	7.7	7.3	6.5	6.4	6.4

**Table B. Number and rate of patients discharged from short-stay hospitals and of days of care, and average length of stay, by age: United States, 1989, 1990, and 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants]

Age	1989	1990	1991
Number of discharges in thousands			
All ages . . . . .	30,947	30,788	31,098
Under 15 years . . . . .	2,597	2,412	2,498
15-44 years . . . . .	11,848	11,799	11,620
45-64 years . . . . .	6,271	6,244	6,173
65 years and over . . . . .	10,230	10,333	10,806
65-74 years . . . . .	4,678	4,689	4,830
75 years and over . . . . .	5,552	5,644	5,976
Rate of discharges per 1,000 population			
All ages . . . . .	125.5	123.5	124.1
Under 15 years . . . . .	48.2	43.9	45.3
15-44 years . . . . .	102.8	101.7	99.3
45-64 years . . . . .	135.0	133.1	132.2
65 years and over . . . . .	330.2	327.1	340.3
65-74 years . . . . .	257.3	253.9	264.2
75 years and over . . . . .	433.6	430.0	443.5
Number of days of care in thousands			
All ages . . . . .	200,827	197,422	199,099
Under 15 years . . . . .	12,632	11,655	12,037
15-44 years . . . . .	55,420	54,062	54,020
45-64 years . . . . .	41,979	42,153	40,100
65 years and over . . . . .	90,795	89,552	92,942
65-74 years . . . . .	38,464	37,422	38,949
75 years and over . . . . .	52,331	52,131	53,992
Rate of days of care per 1,000 population			
All ages . . . . .	814.5	791.7	794.6
Under 15 years . . . . .	234.3	212.4	218.3
15-44 years . . . . .	481.1	466.2	461.8
45-64 years . . . . .	903.7	898.2	858.5
65 years and over . . . . .	2,930.4	2,834.6	2,927.0
65-74 years . . . . .	2,115.5	2,026.3	2,130.7
75 years and over . . . . .	4,087.4	3,972.2	4,007.2
Average length of stay in days			
All ages . . . . .	6.5	6.4	6.4
Under 15 years . . . . .	4.9	4.8	4.8
15-44 years . . . . .	4.7	4.6	4.6
45-64 years . . . . .	6.7	6.8	6.5
65 years and over . . . . .	8.9	8.7	8.6
65-74 years . . . . .	8.2	8.0	8.1
75 years and over . . . . .	9.4	9.2	9.0

# Diagnoses

Hospital use measures are presented for selected first-listed diagnostic categories in table C. The categories shown accounted for more than half of the discharges and days of care in short-stay hospitals in 1991. An estimated 3,973,000 patients discharged were females hospitalized for deliveries. Females with deliveries made up 12.8 percent of all discharges in 1991, but because of their short average length of stay (2.8 days), they used only 5.5 percent of inpatient days of care.

Patients with first-listed diagnoses of heart disease accounted for 3,704,000 discharges, which was 11.9 percent of total discharges. These patients had an average length of stay of 6.8 days and used 12.7 percent of total days of care. Acute myocardial infarction, coronary atherosclerosis, and other ischemic heart disease were the first-listed diagnoses for 53 percent of the heart disease discharges. Other major heart disease diagnoses were congestive heart failure and cardiac dysrhythmia.

Malignant neoplasms were the first-listed diagnoses for 1,594,000 patients discharged or 5.1 percent of total discharges. The average length of stay for patients discharged with malignant neoplasms was 9.2 days in 1991; they used 7.3 percent of the total days of care. Specific malignant neoplasms that frequently led to hospitalization included malignant neoplasm of trachea, bronchus, and lung; malignant neoplasm of large intestine and rectum; and malignant neoplasm of breast.

Two additional diagnostic categories, pneumonia and fractures, each accounted for more than 1 million discharges; two other categories, cerebrovascular disease and psychosis, each made up more than 800,000 discharges. These four diagnostic categories each accounted for more than 7 million days of care in 1990. Patients with first-listed diagnoses of psychosis had a particularly long average length of stay (13.5 days) and they used 6.1 percent of total days of care.

Selected diagnoses for patients 65 years of age and over are shown in table D. Heart disease was the first-listed diagnosis for an estimated 2,361,000 patients 65 years of age and over, which was 22 percent of the

discharges of this age group. Acute myocardial infarction, coronary atherosclerosis, and other ischemic heart disease accounted for 55 percent of the heart disease discharges for patients 65–74 years of age, 42 percent for patients 75 years of age and over. Congestive heart failure was the diagnosis for 32 percent of heart disease discharges for patients 75 years of age and over, and for 19 percent of those 65–74 years of age.

Patients 65 years of age and over with first-listed diagnoses of malignant neoplasm made up 8 percent of discharges for patients 65 years of age and over in 1991. Malignant neoplasm of trachea, bronchus, and lung and malignant neoplasm of large intestine and rectum were important causes of hospitalization for this age group. Cerebrovascular disease was the first-listed diagnosis for 6 percent of patients 65 years of age and over, pneumonia for 5 percent, and fractures for 4 percent. The other diagnostic categories shown in table D accounted for a combined total of 8 percent of the discharges of patients 65 years of age and over.

The discharge rate for patients 75 years of age and over was 4,435.3 per 10,000 population. This was 68 percent higher than the rate of 2,642.2 per 10,000 population for patients 65–74 years of age. However, patients 75 years of age and over did not have higher discharge rates for all the diagnostic categories. The discharge rate per 10,000 population for coronary atherosclerosis was 69.4 for patients 65–74 years of age compared with 47.2 for those 75 years of age and over. Patients 65–74 years of age had a discharge rate of 45.6 per 10,000 population for malignant neoplasm of trachea, bronchus, and lung; but the rate was 30.8 for patients 75 years of age and over.

The average length of stay for patients 65 years of age and over was 8.6 days in 1991. Among the conditions shown in table D, average stays ranged from 4.8 days for hyperplasia of prostate to 16.1 days for malignant neoplasm of large intestine and rectum. Patients 65 years of age and over also had average lengths of stay of 10 days or more for fractures, pneumonia, and all malignant neoplasms.

**Table C. Number and rate of patients discharged from short-stay hospitals and of days of care, and average length of stay, by selected first-listed diagnostic categories: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

Diagnostic category and ICD-9-CM code	Discharges		Days of care		Average length of stay in days
	Number in thousands	Rate per 10,000 population	Number in thousands	Rate per 10,000 population	
All conditions <sup>1</sup> . . . . .	31,098	1,241.1	199,099	7,946.0	6.4
Females with deliveries . . . . . V27	3,973	158.6	11,028	440.1	2.8
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	3,704	147.8	25,279	1,008.9	6.8
Acute myocardial infarction . . . . . 410	697	27.8	5,666	226.1	8.1
Coronary atherosclerosis . . . . . 414.0	384	15.3	2,735	109.1	7.1
Other ischemic heart disease . . . . . 411-413,414.1-414.9	876	35.0	4,423	176.5	5.0
Cardiac dysrhythmias . . . . . 427	536	21.4	2,825	112.7	5.3
Congestive heart failure . . . . . 428.0	764	30.5	6,070	242.2	7.9
Malignant neoplasms . . . . . 140-208, 230-234	1,594	63.6	14,602	582.8	9.2
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	168	6.7	2,448	97.7	14.6
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	236	9.4	2,034	81.2	8.6
Malignant neoplasm of breast . . . . . 174-175,198.81	158	6.3	695	27.8	4.4
Pneumonia . . . . . 480-486	1,088	43.4	8,954	357.4	8.2
Fractures . . . . . 800-829	1,034	41.3	8,733	348.5	8.4
Psychosis . . . . . 290-299	902	36.0	12,153	485.0	13.5
Cerebrovascular disease . . . . . 430-438	835	33.3	7,805	311.5	9.3
Cholelithiasis . . . . . 574	552	22.0	2,745	109.6	5.0
Arthropathies and related disorders . . . . . 710-719	526	21.0	3,891	155.3	7.4
Acute respiratory infections . . . . . 460-466	518	20.7	2,467	98.5	4.8
Asthma . . . . . 493	490	19.6	2,224	88.8	4.5
Diabetes mellitus . . . . . 250	429	17.1	3,043	121.4	7.1
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229, 235-239	407	16.2	1,812	72.3	4.5
Intervertebral disc disorders . . . . . 722	391	15.6	1,955	78.0	5.0
Noninfectious enteritis and colitis . . . . . 555-556, 558	351	14.0	1,948	77.7	5.6
Diseases of the central nervous system . . . . . 320-336, 340-349	331	13.2	2,924	116.7	8.8

<sup>1</sup>Includes data for diagnostic conditions not shown in table.

**Table D. Number and rate of patients 65 years of age and over discharged from short-stay hospitals, and average length of stay, by age and selected first-listed diagnoses: United States, 1991**

[Discharges from non-Federal hospitals. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

Diagnostic category and ICD-9-CM code	65 years and over	65-74 years	75 years and over
Discharges in thousands			
All conditions <sup>1</sup> . . . . .	10,806	4,830	5,976
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	2,361	1,063	1,298
Acute myocardial infarction . . . . . 410	424	195	229
Coronary atherosclerosis . . . . . 414.0	190	127	64
Other ischemic heart disease . . . . . 411-413,414.1-414.9	514	262	252
Cardiac dysrhythmias . . . . . 427	361	159	202
Congestive heart failure . . . . . 428.0	615	201	413
Malignant neoplasms . . . . . 140-208, 230-234	883	486	397
Malignant neoplasm of large intestine and rectum . . . . . 153-154, 197.5	124	62	62
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	125	83	42
Cerebrovascular disease . . . . . 430-438	640	231	409
Pneumonia . . . . . 480-486	589	199	390
Fractures . . . . . 800-829	452	116	336
Arthropathies and related disorders . . . . . 710-719	261	155	107
Volume depletion . . . . . 276.5	189	52	137
Urinary tract infection, site unspecified . . . . . 599.0	186	50	136
Hyperplasia of prostate . . . . . 600	180	97	83
Discharge rate per 10,000 population			
All conditions <sup>1</sup> . . . . .	3,403.1	2,642.2	4,435.3
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	743.5	581.4	963.3
Acute myocardial infarction . . . . . 410	133.5	106.5	170.1
Coronary atherosclerosis . . . . . 414.0	60.0	69.4	47.2
Other ischemic heart disease . . . . . 411-413,414.1-414.9	161.7	143.3	186.8
Cardiac dysrhythmias . . . . . 427	113.8	87.0	150.0
Congestive heart failure . . . . . 428.0	193.6	110.2	306.8
Malignant neoplasm . . . . . 140-208, 230-234	278.1	265.6	294.9
Malignant neoplasm of large intestine and rectum . . . . . 153-154, 197.5	39.0	33.7	46.1
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	39.3	45.6	30.8
Cerebrovascular disease . . . . . 430-438	201.5	126.4	303.4
Pneumonia . . . . . 480-486	185.5	108.9	289.4
Fractures . . . . . 800-829	142.4	63.3	249.7
Arthropathies and related disorders . . . . . 710-719	82.3	84.6	79.2
Volume depletion . . . . . 276.5	59.6	28.7	101.5
Urinary tract infection, site unspecified . . . . . 599.0	58.7	27.3	101.3
Hyperplasia of prostate . . . . . 600	56.7	53.2	61.4
Average length of stay in days			
All conditions <sup>1</sup> . . . . .	8.6	8.1	9.0
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	7.2	6.9	7.4
Acute myocardial infarction . . . . . 410	8.8	8.9	8.8
Coronary atherosclerosis . . . . . 414.0	6.5	6.4	6.8
Other ischemic heart disease . . . . . 411-413,414.1-414.9	5.6	5.5	5.8
Cardiac dysrhythmias . . . . . 427	5.6	5.1	6.0
Congestive heart failure . . . . . 428.0	7.9	7.5	8.0
Malignant neoplasms . . . . . 140-208,230-234	10.1	9.9	10.4
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	16.1	17.6	14.5
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	9.5	9.1	10.3
Cerebrovascular disease . . . . . 430-438	9.7	9.6	9.8
Pneumonia . . . . . 480-486	10.2	8.6	11.0
Fractures . . . . . 800-829	11.3	10.6	11.5
Arthropathies and related disorders . . . . . 710-719	9.4	9.2	9.8
Volume depletion . . . . . 276.5	9.8	6.8	10.9
Urinary tract infection, site unspecified . . . . . 599.0	8.4	8.2	8.4
Hyperplasia of prostate . . . . . 600	4.8	4.6	5.0

<sup>1</sup>Includes diagnostic conditions not shown in table.

# Procedures

One or more surgical, diagnostic, or therapeutic procedures were performed on an estimated 20,977,000 inpatients discharged from short-stay hospitals in 1991, which was 67.5 percent of all discharges (table E). At least one surgical procedure was reported for 14,628,000 patients discharged, or 47.0 percent of all discharges. See appendix II for the definition of surgical and nonsurgical procedures.

The proportion of patients with surgical procedures ranged from 26.8 percent of children under 15 years of age to 57.7 percent of patients 15–44 years of age, who have many procedures related to childbirth. At least one surgical procedure was performed on 50.0 percent of females and 42.6 percent of males. The proportion of white patients with a surgical procedure was 47.2 percent, compared with 40.5 percent of black patients.

An estimated total of 23,403,000 surgical procedures were performed for inpatients who had surgery (table F). When multiple procedures were performed on an individual patient, the procedures were usually classified in different procedure categories. However, coronary artery bypass graft (CABG, ICD-9-CM code 36.1) can be an exception. A physician may perform more than one CABG procedure during a single operation. In 1991, a total of 407,000 CABG procedures were performed on 265,000 patients discharged. Data users should not equate the number of CABG procedures with the number of patients having the procedure.

Four obstetrical procedures accounted for 18 percent of all surgical procedures performed in 1991: episiotomy,

**Table E. Number of patients discharged from short-stay hospitals with and without procedures and percent with procedures, by selected characteristics: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants]

Characteristics	All discharged patients	Patients without procedures	Patients with procedures			
			All patients with procedures	Patients with surgical procedures	All patients with procedures	Patients with surgical procedures
	Number in thousands				Percent	
All patients. . . . .	31,098	10,121	20,977	14,628	67.5	47.0
Age						
Under 15 years. . . . .	2,498	1,269	1,230	671	49.2	26.8
15–44 years. . . . .	11,620	2,998	8,622	6,707	74.2	57.7
45–64 years. . . . .	6,173	1,863	4,311	2,982	69.8	48.3
65 years and over . . . . .	10,806	3,991	6,815	4,269	63.1	39.5
Sex						
Male . . . . .	12,478	4,374	8,104	5,319	64.9	42.6
Female . . . . .	18,620	5,747	12,873	9,310	69.1	50.0
Race						
White . . . . .	20,816	6,949	13,867	9,826	66.6	47.2
Black . . . . .	3,717	1,284	2,433	1,507	65.4	40.5
All other . . . . .	1,036	206	831	561	80.1	54.1
Not stated . . . . .	5,528	1,681	3,847	2,735	69.6	49.5
Region						
Northeast . . . . .	7,153	1,996	5,157	3,401	72.1	47.5
Midwest . . . . .	7,315	2,798	4,517	3,267	61.7	44.7
South . . . . .	11,290	4,089	7,201	5,180	63.8	45.9
West . . . . .	5,340	1,238	4,102	2,780	76.8	52.1

Note: See appendix II for definition of surgical procedures.

**Table F. Number and rate of all-listed surgical procedures for patients discharged from short-stay hospitals, by selected surgical categories: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Procedure groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

<i>Procedure category and ICD-9-CM code</i>	<i>Number in thousands</i>	<i>Rate per 100,000 population</i>
Surgical procedures <sup>1</sup> . . . . .	23,403	9,340.2
Episiotomy with or without forceps or vacuum extraction . . . . . 72.1, 72.21, 72.31, 72.71, 73.6	1,684	672.1
Cardiac catheterization . . . . . 37.21-37.23	1,000	399.1
Cesarean section . . . . . 74.0-74.2, 74.4, 74.99	933	372.5
Repair of current obstetric laceration . . . . . 75.5-75.6	795	317.3
Artificial rupture of membranes . . . . . 73.0	775	309.3
Cholecystectomy . . . . . 51.2	571	227.8
Hysterectomy . . . . . 68.3-68.7	546	218.0
Oophorectomy and salpingo-oophorectomy . . . . . 65.3-65.6	458	182.7
Open reduction of fracture, with internal fixation . . . . . 79.3	418	166.7
Coronary artery bypass graft . . . . . 36.1	407	162.6
Bilateral destruction or occlusion of fallopian tubes . . . . . 66.2-66.3	401	160.1
Prostatectomy . . . . . 60.2-60.6	363	145.1
Lysis of peritoneal adhesions . . . . . 54.5	339	135.4
Removal of coronary obstruction . . . . . 36.0	331	131.9
Debridement of wound, infection, or burn . . . . . 86.22,86.28	326	130.0
Excision or destruction of intervertebral disc . . . . . 80.5	306	122.2
Insertion, replacement, removal, and revision, of pacemaker leads or device . . . . . 37.7-37.8	300	119.6
Appendectomy, excluding incidental . . . . . 47.0	255	101.8

<sup>1</sup>Includes data for surgical conditions not shown in table. See appendix II for ICD-9-CM codes included.

**Table G. Number and rate of all-listed nonsurgical procedures for patients discharged from short-stay hospitals, by selected nonsurgical categories: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Procedure groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

<i>Procedure category and ICD-9-CM code</i>	<i>Number in thousands</i>	<i>Rate per 100,000 population</i>
Nonsurgical procedures <sup>1</sup> . . . . .	20,519	8,188.9
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	1,718	685.8
Diagnostic ultrasound . . . . . 88.7	1,592	635.2
Computerized axial tomography . . . . . 87.03,87.41,87.71,88.01,88.38	1,459	582.4
Fetal EKG and fetal monitoring, not otherwise specified . . . . . 75.32, 75.34	1,327	529.4
Respiratory therapy . . . . . 93.9	1,214	484.5
Manual assisted delivery . . . . . 73.5	795	317.2
Circulatory monitoring . . . . . 89.6	703	280.5
Radioisotope scan . . . . . 92.0-92.1	539	215.0
Endoscopy of small intestine (excludes that with biopsy) . . . . . 45.11-45.13	536	214.1
Injection or infusion of cancer chemotherapeutic substance . . . . . 99.25	456	182.0
Cystoscopy of bladder . . . . . 57.31-57.32	427	170.4
Colonoscopy and sigmoidoscopy . . . . . 45.23-45.24	390	155.8
Spinal tap . . . . . 03.31	380	151.6

<sup>1</sup>Includes data for nonsurgical procedures not shown in table. See appendix II for codes included.

cesarean section, repair of current obstetric laceration, and artificial rupture of membranes. The rate per 100 deliveries was 23.5 for cesarean section and 19.5 for artificial rupture of membranes. There were 55.4 episiotomies and 26.2 repairs of current obstetric lacerations per 100 vaginal deliveries.

The cardiovascular procedures of cardiac catheterization; coronary artery bypass graft; removal of coronary artery obstruction; and insertion, replacement, removal, and revision of pacemaker leads or device together accounted for 9 percent of all surgical procedures on hospital inpatients. Three operations on the female genital

organs made up 6 percent of all surgical procedures. These procedures were hysterectomy, oophorectomy and salpingo-oophorectomy, and bilateral destruction or occlusion of fallopian tubes. The operations on the digestive system of cholecystectomy, lysis of peritoneal adhesions, and appendectomy combined were 5 percent of all surgical procedures.

Inpatients discharged from short-stay hospitals had an estimated 20,519,000 nonsurgical procedures in 1991 (table G). In 1990, only 17,450,000 nonsurgical procedures were reported. The main reason for the increase was that 1991 was the first year in which all ICD-9-CM

**Table H. Number and rate of all-listed surgical procedures for patients 65 years of age and over discharged from short-stay hospitals, by age and selected procedure categories: United States, 1991**

[Discharges from non-Federal hospitals. Procedure groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM)]

Procedure category and ICD-9-CM code	65 years and over	65-74 years	75 years and over
Number in thousands			
Surgical procedures <sup>1</sup>	6,960	3,651	3,310
Cardiac catheterization . . . . . 37.21-37.23	446	296	150
Prostatectomy . . . . . 60.2-60.6	295	158	138
Insertion, replacement, removal, and revision of pacemaker leads or device . . . . . 37.7-37.8	244	85	160
Coronary artery bypass graft . . . . . 36.1	206	146	60
Cholecystectomy . . . . . 51.2	185	107	77
Open reduction of fracture, with internal fixation . . . . . 79.3	170	50	120
Partial excision of large intestine . . . . . 45.7	139	67	72
Debridement of wound, infection, or burn . . . . . 86.22,86.28	138	58	79
Rate per 100,000 population			
Surgical procedures <sup>1</sup>	21,920.3	19,970.1	24,564.4
Cardiac catheterization . . . . . 37.21-37.23	1,404.8	1,620.5	1,112.1
Prostatectomy . . . . . 60.2-60.6	930.0	862.3	1,021.8
Insertion, replacement, removal, and revision of pacemaker leads or device . . . . . 37.7-37.8	769.9	464.1	1,185
Coronary artery bypass graft . . . . . 36.1	650.2	798.7	448.7
Cholecystectomy . . . . . 51.2	581.9	587.5	574.2
Open reduction of fracture, with internal fixation . . . . . 79.3	535.6	273.7	890.8
Partial excision of large intestine . . . . . 45.7	436.3	365.8	531.8
Debridement of wound, infection, or burn . . . . . 86.22,86.28	433.6	319.1	588.8

<sup>1</sup>Includes procedures not shown in table. See appendix II for ICD-9-CM codes included.

**Table J. Number and rate of all-listed nonsurgical procedures for patients 65 years of age and over discharged from short-stay hospitals, by age and selected procedure categories: United States, 1991**

[Discharges from non-Federal hospitals. Procedure groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM)]

Procedure category and ICD-9-CM code	65 years and over	65-74 years	75 years and over
Number in thousands			
Nonsurgical procedures <sup>1</sup>	8,112	3,770	4,342
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	791	506	285
Diagnostic ultrasound . . . . . 88.7	739	314	426
Computerized axial tomography . . . . . 87.03,87.41,87.71,88.01,88.38	702	285	417
Respiratory therapy . . . . . 93.9	588	250	338
Circulatory monitoring . . . . . 89.6	390	166	224
Endoscopy of small intestine (excludes that with biopsy) . . . . . 45.11-45.13	290	118	172
Radioisotope scan . . . . . 92.0-92.1	270	129	142
Cystoscopy (excludes that with biopsy) . . . . . 57.31-57.32	259	118	141
Endoscopy of large intestine (excludes that with biopsy) . . . . . 45.21-45.24	247	93	153
Rate per 100,000 population			
Nonsurgical procedures <sup>1</sup>	25,547.7	20,623.8	32,225.9
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	2,492.2	2,769.3	2,116.0
Diagnostic ultrasound . . . . . 88.7	2,328.6	1,715.8	3,159.8
Computerized axial tomography . . . . . 87.03,87.41,87.71,88.01,88.38	2,210.6	1,558.0	3,095.8
Respiratory therapy . . . . . 93.9	1,853.0	1,368.4	2,510.4
Circulatory monitoring . . . . . 89.6	1,226.9	907.8	1,659.8
Endoscopy of small intestine (excludes that with biopsy) . . . . . 45.11-45.13	913.4	645.8	1,276.4
Radioisotope scan . . . . . 92.0-92.1	851.8	704.6	1,051.4
Cystoscopy (excludes that with biopsy) . . . . . 57.31-57.32	817.2	647.0	1,048.0
Endoscopy of large intestine (excludes that with biopsy) . . . . . 45.21-45.24	776.9	511.3	1,137.2

<sup>1</sup>Includes procedures not shown in table. See appendix II for ICD-9-CM codes included.

procedure codes were used in the NHDS. In previous years selected codes were excluded, primarily codes for certain miscellaneous diagnostic and therapeutic procedures.

In 1991 five nonsurgical procedures accounted for more than 1 million procedures each. These were arteriography and angiocardiology using contrast material accounted (1.7 million), diagnostic ultrasound (1.6 million),



computerized axial tomography (1.5 million), fetal EKG and fetal monitoring (1.3 million), and respiratory therapy (1.2 million). These five procedures accounted for approximately 36 percent of all nonsurgical procedures. Fetal EKG and fetal monitoring were performed at the rate of 33.4 per 100 deliveries.

An estimated 6,960,000 surgical procedures were performed on hospital inpatients 65 years of age and over in 1991 (table H). Three cardiovascular procedures accounted for 13 percent of the surgical procedures on the elderly. These three procedures were cardiac catheterization; insertion, replacement, removal, and revision of pacemaker leads or device; and coronary artery bypass graft. Prostatectomy made up an additional 4 percent of the surgical procedures for persons 65 years of age and over.

The rate of surgical procedures per 100,000 population was generally higher for persons 75 years of age and over than for those 65–74 years of age. However, the rate per 100,000 population for cardiac catheterization was 1,620.5 for persons 65–74 years of age, compared with 1,112.1 for those 75 years of age and over. Coronary artery bypass graft was performed at the rate of 798.7 per 100,000 population for the 65–74 year age group but at the

rate of 448.7 per 100,000 population for persons 75 years of age and over.

The estimated number of nonsurgical procedures for patients 65 years of age and over was 8,112,000 in 1991 (table J). In 1990, 6,739,000 nonsurgical procedures were reported for this age group. Again, this increase was due in large part to the inclusion of all ICD–9–CM codes in the 1991 survey.

Arteriography and angiocardiology using contrast material accounted for 10 percent of the nonsurgical procedures performed on patients 65 years of age and over. Diagnostic ultrasound and computerized axial tomography each accounted for 9 percent. Respiratory therapy made up 7 percent, and circulatory monitoring 5 percent of nonsurgical procedures on the elderly.

Like the rates of surgical procedures, rates of nonsurgical procedures per 100,000 population were generally higher for patients 75 years of age and over than for those 65–74 years of age. One exception was arteriography and angiocardiology using contrast material, for which the rate per 100,000 population was 2,769.3 for persons 65–74 years of age and 2,116.0 for those 75 years of age and over.

# Patients with HIV diagnoses

The estimated number of patients discharged with human immunodeficiency virus (HIV) diagnoses increased from 10,000 in 1984 to 165,000 in 1991 (table K). The discharge rate for patients with HIV diagnoses rose from 4.3 to 65.7 per 100,000 population during this period. These data include patients with acquired immunodeficiency syndrome (AIDS), those with HIV and associated conditions, and those with positive serological or viral culture findings for HIV. The ICD-9-CM code of 279.19 was used for HIV diagnoses from 1984 until 1986. During 1986, new ICD-9-CM codes, 042-044 and 795.8, were added to provide more detail.

The number of days of care for patients with HIV diagnoses increased from 123,000 in 1984 to 2,188,000 in 1990 but did not increase from 1990 to 1991. In 1991, 2,107,000 days of care were reported. The rate of days of care per 100,000 population rose from 52.7 in 1984, to 877.4 in 1990, and was 841.2 in 1991. The average length of stay for patients with HIV diagnoses ranged from 12.1 days to 17.1 days during the 1984-1991 period. In 1991, HIV patients had an average stay of 12.8 days.

The number and rate of patients with HIV diagnoses discharged from short-stay hospitals from 1989 through

1991 are shown in table L. During this 3-year period, 80 percent of HIV discharges were male. In 1991, the discharge rate per 100,000 population for males with HIV was 104.6, compared with a rate of 29.1 for females with HIV.

Three-fourths of HIV patients discharged from 1989 through 1991 were 25-44 years of age. Each 5-year age group within the 25-44 year group had a HIV discharge rate of more than 100 per 100,000 population in 1991, compared with rates of 32.0 for patients 45 years of age and over and 17.1 for those under 25 years of age.

Half of discharges with HIV diagnoses were white and a third were black in the 1989-91 period, but the discharge rate per 100,000 population was 199.8 for black patients and only 33.9 for white patients in 1991. These proportions and rates may be underestimated, however, because race was not reported for all HIV patients. In 1991, race was not reported for 15 percent of HIV discharges.

The Northeast Region accounted for 40 percent of HIV discharges from 1989 through 1991. In 1991, the discharge rate per 100,000 population was 120.7 in the Northeast, compared to 62.3 in the West, 50.6 in the South, and 43.7 in the Midwest.

**Table K. Selected measures of hospital utilization for patients discharged from short-stay hospitals with human immunodeficiency virus (HIV) diagnoses: United States, 1984-91**

[Discharges from non-Federal hospitals. Excludes newborn infants. Data are for discharges with at least one of the following *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM) codes: 279.19, 042-044, 795.8]

Measure of utilization	1984	1985	1986	1987	1988	1989	1990	1991
Number of patients discharged in thousands . . . . .	10	23	44	67	95	140	146	165
Rate of patient discharges per 100,000 population . . . . .	4.3	9.5	18.2	27.5	39.1	56.7	58.7	65.7
Number of days of care in thousands . . . . .	123	387	714	936	1,277	1,731	2,188	2,107
Rate of days of care per 100,000 population . . . . .	52.7	163.1	298.5	387.3	522.9	702.3	877.4	841.2
Average length of stay in days . . . . .	12.1	17.1	16.4	14.1	13.4	12.4	14.9	12.8

**Table L. Number and rate of patients with human immunodeficiency virus (HIV) diagnoses discharged from short-stay hospitals, by selected characteristics: United States, 1989–91**

[Discharges from non-Federal hospitals. Excludes newborn infants. Data are for discharges with at least one of the following *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) codes: 279.19, 042–044, 795.8]

Characteristic	1989	1990	1991	1989	1990	1991
	Number in thousands			Rate per 100,000 population		
All HIV discharges . . . . .	140	146	165	56.7	58.7	65.7
Sex						
Male . . . . .	118	114	127	98.5	94.6	104.6
Female . . . . .	22	32	37	17.3	24.9	29.1
Age						
Under 25 years . . . . .	9	14	16	9.7	15.3	17.1
25–29 years . . . . .	23	20	25	107.0	97.3	122.3
30–34 years . . . . .	28	38	38	128.9	172.2	173.7
35–39 years . . . . .	32	36	36	163.3	179.7	178.7
40–44 years . . . . .	24	17	25	144.1	96.5	132.4
45 years and over . . . . .	24	21	25	31.1	26.9	32.0
Race <sup>1</sup>						
White . . . . .	77	75	71	37.0	36.0	33.9
Black . . . . .	45	49	62	147.8	157.3	199.8
All other . . . . .	*5	*	*7	*60.5	*	*66.0
Not stated . . . . .	13	19	25	...	...	...
Region						
Northeast . . . . .	54	66	61	106.8	129.9	120.7
Midwest . . . . .	21	20	26	34.3	33.4	43.7
South . . . . .	40	37	44	46.9	42.6	50.6
West . . . . .	25	24	33	49.3	45.3	62.3

<sup>1</sup>Numbers and rates for specific race groups are underestimated because race was not reported for all HIV discharges.

# Hospital deaths

In 1991, 95.6 percent of patients (excluding newborn infants) were discharged from short-stay hospitals alive, 3.0 percent were discharged dead, and for 1.4 percent a discharge status was not reported. Of the estimated 918,000 patients who died, 471,000 (51.3 percent) were male and 447,000 (48.7 percent) were female (table M). As expected, patients 65 years of age and over accounted for the majority of hospital deaths, 688,000 (74.9 percent). Persons who died while hospitalized represented approximately 42 percent of all deaths during 1991 (5).

A hospital fatality rate is the number of deaths for a category divided by the total number of discharges for that category multiplied by 100. This rate is conservative because the formula is based on the assumption that all patients whose discharge status was not stated were discharged alive. An overall fatality rate of 3.0 was computed for patients in 1991. The rate was 3.8 for males compared with 2.4 for females. Patients under 65 years of age had a fatality rate of 1.1; for those 65 years of age and over the rate was 6.4.

**Table M. Number of deaths and fatality rate of patients discharged from short-stay hospitals, by sex and age of patient: United States, 1991**

[Deaths in non-Federal hospitals. Excludes newborn infants]

Age	Both sexes	Male	Female	Both sexes	Male	Female
	Number in thousands			Rate per 100 discharges		
All ages . . . . .	918	471	447	3.0	3.8	2.4
Under 65 years . . . . .	230	134	96	1.1	1.7	0.8
Under 15 years . . . . .	20	10	10	0.8	0.7	1.0
15-44 years . . . . .	56	36	20	0.5	1.1	0.2
45-64 years . . . . .	154	89	65	2.5	2.9	2.1
65 years and over . . . . .	688	336	351	6.4	7.1	5.8

**Table N. Number of deaths and fatality rate of patients discharged from short-stay hospitals, by age and selected categories of first-listed diagnosis: United States, 1991**

[Deaths in non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

Category of first-listed diagnosis and ICD-9-CM code	All ages	Under 65 years	65 years and over	All ages	Under 65 years	65 years and over
	Number in thousands			Rate per 100 discharges		
All deaths <sup>1</sup> . . . . .	918	230	688	3.0	1.1	6.4
Heart disease . . . . . 391-392.0, 393-398, 402, 404, 410-416, 420-429	207	39	168	5.6	2.9	7.1
Acute myocardial infarction . . . . . 410	86	16	69	12.3	5.9	16.4
Congestive heart failure . . . . . 428.0	60	*6	54	7.9	*3.9	8.9
Cardiac dysrhythmias . . . . . 427	23	*7	16	4.2	*4.0	4.3
Chronic ischemic heart disease . . . . . 411-414	14	*	11	1.1	*	1.5
Malignant neoplasms . . . . . 140-208, 230-234	151	52	99	9.5	7.3	11.2
Malignant neoplasms of trachea, bronchus, and lung . . . 162, 197.0, 197.3	40	12	28	16.8	10.5	22.5
Pneumonia . . . . . 480-486	82	10	72	7.6	2.0	12.3
Cerebrovascular disease . . . . . 430-438	69	12	57	8.3	6.1	8.9
Injury and poisoning . . . . . 800-999	41	15	27	1.5	0.8	3.0
Septicemia . . . . . 038	40	*8	32	16.7	*9.7	20.2
Nephritis, nephrotic syndrome, and nephrosis . . . . . 580-589	15	*	11	13.1	*	18.6

<sup>1</sup>Includes data for deaths not shown in table.

**Table O. Average length of stay of patients discharged from short-stay hospitals, by discharge status, sex, and age: United States, 1991**  
[Deaths in non-Federal hospitals. Excludes newborn infants]

Age	Discharge status					
	Alive			Dead		
	Both sexes	Male	Female	Both sexes	Male	Female
	Average length of stay in days					
All ages . . . . .	6.2	6.7	5.9	12.0	12.3	11.6
Under 65 years . . . . .	5.1	6.0	4.6	13.3	12.7	14.2
Under 15 years . . . . .	4.7	4.8	4.6	19.5	20.0	19.0
15-44 years . . . . .	4.6	6.3	4.0	14.3	14.0	15.0
45-64 years . . . . .	6.3	6.4	6.3	12.1	11.3	13.2
65 years and over . . . . .	8.4	8.0	8.7	11.5	12.1	10.9

Table N shows estimated numbers of hospital deaths and hospital fatality rates for selected conditions for the age groups under 65 years of age and 65 years of age and over. These estimates are not the same as the data for underlying cause of death reported in *Vital Statistics of the United States*. The diagnostic groupings in table N accounted for 66 percent of the deaths in short-stay hospitals in 1991. Heart disease and malignant neoplasms were responsible for 358,000 (39 percent) of all hospital deaths. Fatality rates of more than 10 per 100 discharges were found for malignant neoplasm of trachea, bronchus, and lung (16.8); septicemia (16.7); nephritis, nephrotic syndrome, and nephrosis (13.1); and acute myocardial infarction (12.3).

Average lengths of stay for patients discharged from short-stay hospitals are shown by discharge status, age, and sex in table O. The average stay for all discharged patients was 6.4 days. Patients discharged alive had an average stay of 6.2 days, but those discharged dead had an average length of stay of 12.0 days. For patients under 65 years of age, the average length of stay was 5.1 days for those discharged alive; however, it was 13.3 days for those who died in the hospital. Average lengths of stay were more similar for patients 65 years of age and over—8.4 days for those discharged alive compared with 11.5 days for those who died in hospitals.

# Newborn infants

Newborn infants, defined as patients admitted to the hospital by birth, were estimated at 3,880,000 in 1991 (table P). Males made up 2,003,000 (51.6 percent) and females 1,877,000 (48.4 percent) of newborn infants. Because these estimates were based on a sample, they may not agree with the data on births published in *Vital Statistics of the United States*.

The South Region accounted for 34.4 percent of newborn infants, the West for 24.6 percent, the Midwest for 22.6 percent, and the Northeast for 18.4 percent. The average length of stay for all newborn infants was 3.2 days; average stays ranged from 3.6 days in the Northeast Region to 2.8 days in the West Region.

As shown in table Q, 2,293,000 newborn infants were defined as well, which meant they did not have any illnesses or risk-related diagnoses. The 1,586,000 sick newborn infants had at least one diagnosis in addition to the newborn infant diagnosis. Sick newborn infants made up 43 percent of all male newborn infants and 39 percent of female newborn infants.

The average length of stay for sick newborn infants was 4.6 days, compared with an average stay of 2.3 days for well newborn infants. As a result, sick newborn infants accounted for 59 percent of all hospital days for newborn infants, although they constituted only 41 percent of newborn infant discharges.

**Table P. Number, percent distribution, and average length of stay for newborn infants discharged from short-stay hospitals, by sex and geographic region: United States, 1991**

[Discharges from non-Federal hospitals]

Sex and region	Number of discharges	Percent distribution	Average length of stay in days
All newborn infants . . . . .	3,880	100.0	3.2
Sex			
Male . . . . .	2,003	51.6	3.3
Female . . . . .	1,877	48.4	3.1
Region			
Northeast . . . . .	714	18.4	3.6
Midwest . . . . .	877	22.6	3.0
South . . . . .	1,334	34.4	3.4
West . . . . .	955	24.6	2.8

The diagnosis of hemolytic disease of fetus or newborn, due to isoimmunization and other perinatal jaundice was reported an estimated 585,000 times for sick newborn infants, and by itself accounted for 21 percent of sick newborn diagnoses (table R). Other leading sick newborn infant diagnoses included respiratory distress syndrome and other respiratory conditions of fetus and newborn, congenital anomalies, and disorders relating to short gestation and unspecified low birthweight (prematurity). Together, these three diagnostic categories made up 26 percent of sick newborn infant diagnoses.

**Table Q. Number and average length of stay of newborn infants discharged from short-stay hospitals, by sex and health status: United States, 1991**

[Discharges from non-Federal hospitals]

Health status	Both sexes	Male	Female
Number in thousands			
Total . . . . .	3,880	2,003	1,887
Well . . . . .	2,293	1,142	1,151
Sick . . . . .	1,586	860	726
Average length of stay in days			
Total . . . . .	3.2	3.3	3.1
Well . . . . .	2.3	2.3	2.2
Sick . . . . .	4.6	4.7	4.6

**Table R. Number of all-listed diagnoses for sick newborn infants discharged from short-stay hospitals, by sex and selected diagnostic categories: United States, 1991**

[Discharges from non-Federal hospitals. Diagnostic groupings and code numbers are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

Diagnostic category and ICD-9-CM code	Both sexes	Male	Female
Number in thousands			
Sick newborn infant diagnoses <sup>1</sup> . . . . .	2,837	1,589	1,248
Congenital anomalies . . . . . 740-759	242	136	106
Disorders relating to short gestation and unspecified low birthweight (prematurity) . . . 765	212	119	92
Respiratory distress syndrome and other respiratory conditions of fetus and newborn . . . . . 769-770	296	180	116
Hemolytic disease of fetus or newborn, due to isoimmunization and other perinatal jaundice . . . . . 773-774	585	314	271

<sup>1</sup>Includes data for diagnoses not shown in the table.

# References

1. Simmons WR, Schnack GA. Development of the design of the NCHS Hospital Discharge Survey. National Center for Health Statistics. Vital Health Stat 2(39). 1977.
2. SMG Marketing Group, Inc. Hospital Market Database. Chicago, Illinois: Healthcare Information Specialists. April 1987.
3. SMG Marketing Group, Inc. Hospital Market Database. Chicago, Illinois: Healthcare Information Specialists. April 1991.
4. Public Health Service and Health Care Financing Administration. International Classification of Diseases, 9th Revision, Clinical Modification, 3rd ed. Washington: Public Health Service. 1989.
5. National Center for Health Statistics. Annual summary of births, marriages, divorces, and deaths: United States, 1991. Monthly vital statistics report; vol 40 no 13. Hyattsville, Maryland: Public Health Service. 1992.
6. Massey JT, Moore TF, Parsons VL, Tadros W. Design and estimation for the National Health Interview Survey, 1985–94. National Center for Health Statistics. Vital Health Stat 2(110). 1989.
7. National Archives and Records Administration. Federal Register 50(147). Washington: National Archives and Records Administration. 31038–40. 1985.
8. SMG Marketing Group, Inc. Hospital Market Database. Chicago, Illinois: Healthcare Information Specialists. April 1992.
9. Shah BV. SESUDAAN: Standard errors program for computing of standardized rates from sample survey data. Research Triangle Park, North Carolina: Research Triangle Institute. 1981.
10. Hansen MH, Hurwitz WN, and Madow WG. Sample survey methods and theory, vol 1. New York: John Wiley & Sons. 1953.
11. Cochran WG. Sampling techniques, 3rd ed. New York: John Wiley & Sons. 1977.

# List of detailed tables

1. Number, percent distribution, and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex and age: United States, 1991 . . . . .	20	15. Number of patients discharged from short-stay hospitals, by geographic region and first-listed diagnosis: United States, 1991 . . . . .	37
2. Number, percent distribution, and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex, race, and age: United States, 1991 . . . . .	21	16. Rate of patients discharged from short-stay hospitals, by geographic region and first-listed diagnosis: United States, 1991 . . . . .	38
3. Number of patients discharged from short-stay hospitals, days of care, and average lengths of stay, by principal expected source of payment, geographic region, and age: United States, 1991 . . . . .	23	17. Average length of stay for patients discharged from short-stay hospitals, by geographic region and first-listed diagnosis: United States, 1991 . . . . .	39
4. Number and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex, age, and geographic region: United States, 1991 . . . . .	25	18. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by age and diagnosis: United States, 1991 . . . . .	40
5. Number, percent distribution, and rate of women with deliveries discharged from short-stay hospitals and of days of care, with average lengths of stay, by age, race, and geographic region: United States, 1991 . . . . .	27	19. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by sex and diagnosis: United States, 1991 . . . . .	41
6. Number of patients discharged from short-stay hospitals, by age and first-listed diagnosis: United States, 1991 . . . . .	28	20. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by race and diagnosis: United States, 1991 . . . . .	42
7. Rate of patients discharged from short-stay hospitals, by age and first-listed diagnosis: United States, 1991 . . . . .	29	21. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by geographic region and diagnosis: United States, 1991 . . . . .	43
8. Average length of stay for patients discharged from short-stay hospitals, by age and first-listed diagnosis: United States, 1991 . . . . .	30	22. Number of all-listed procedures for patients discharged from short-stay hospitals, by age and procedure category: United States, 1991 . . . . .	44
9. Number of patients discharged from short-stay hospitals, by sex and first-listed diagnosis: United States, 1991 . . . . .	31	23. Rate of all-listed procedures for patients discharged from short-stay hospitals, by age and procedure category: United States, 1991 . . . . .	45
10. Rate of patients discharged from short-stay hospitals, by sex and first-listed diagnosis: United States, 1991 . . . . .	32	24. Number of all-listed procedures for patients discharged from short-stay hospitals, by sex and procedure category: United States, 1991 . . . . .	46
11. Average length of stay for patients discharged from short-stay hospitals, by sex and first-listed diagnosis: United States, 1991 . . . . .	33	25. Rate of all-listed procedures for patients discharged from short-stay hospitals, by sex and procedure category: United States, 1991 . . . . .	47
12. Number of patients discharged from short-stay hospitals, by race and first-listed diagnosis: United States, 1991 . . . . .	34	26. Number of all-listed procedures for patients discharged from short-stay hospitals, by race and procedure category: United States, 1991 . . . . .	48
13. Rate of patients discharged from short-stay hospitals, by race and first-listed diagnosis: United States, 1991 . . . . .	35	27. Rate of all-listed procedures for patients discharged from short-stay hospitals, by race and procedure category: United States, 1991 . . . . .	49
14. Average length of stay for patients discharged from short-stay hospitals, by race and first-listed diagnosis: United States, 1991 . . . . .	36	28. Number of all-listed procedures for patients discharged from short-stay hospitals, by geographic region and procedure category: United States, 1991 . . . . .	50
		29. Rate of all-listed procedures for patients discharged from short-stay hospitals, by geographic region and procedure category: United States, 1991 . . . . .	51



**Table 1. Number, percent distribution, and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex and age: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants]

Sex, race, and age	Discharged patients			Days of care			Average length of stay in days
	Number in thousands	Percent distribution	Rate per 1,000 population	Number in thousands	Percent distribution	Rate per 1,000 population	
Both sexes							
All ages . . . . .	31,098	100.0	124.1	199,099	100.0	794.6	6.4
Under 15 years . . . . .	2,498	8.0	45.3	12,037	6.0	218.3	4.8
Under 1 year . . . . .	805	2.6	200.8	4,922	2.5	1,227.2	6.1
1-4 years . . . . .	735	2.4	48.3	2,650	1.3	174.3	3.6
5-14 years . . . . .	958	3.1	26.7	4,464	2.2	124.3	4.7
15-44 years . . . . .	11,620	37.4	99.3	54,020	27.1	461.8	4.6
15-19 years . . . . .	1,368	4.4	80.2	6,052	3.0	354.9	4.4
20-24 years . . . . .	2,116	6.8	113.3	8,385	4.2	449.0	4.0
25-34 years . . . . .	4,773	15.3	113.0	20,950	10.5	495.9	4.4
35-44 years . . . . .	3,364	10.8	86.3	18,634	9.4	477.8	5.5
45-64 years . . . . .	6,173	19.9	132.2	40,100	20.1	858.5	6.5
45-54 years . . . . .	2,795	9.0	108.7	16,859	8.5	655.8	6.0
55-64 years . . . . .	3,378	10.9	160.8	23,241	11.7	1,106.5	6.9
65 years and over . . . . .	10,806	34.7	340.3	92,942	46.7	2,927.0	8.6
65-74 years . . . . .	4,830	15.5	264.2	38,949	19.6	2,130.8	8.1
75-84 years . . . . .	4,136	13.3	401.0	37,054	18.6	3,592.6	9.0
85 years and over . . . . .	1,840	5.9	582.2	16,939	8.5	5,360.4	9.2
Under 17 years . . . . .	2,887	9.3	46.7	14,039	7.1	227.2	4.9
17-69 years . . . . .	19,741	63.5	118.2	110,695	55.6	662.6	5.6
70 years and over . . . . .	8,470	27.2	390.0	74,364	37.4	3,424.4	8.8
Male							
All ages . . . . .	12,478	100.0	102.7	86,930	100.0	715.2	7.0
Under 15 years . . . . .	1,435	11.5	50.8	6,981	8.0	247.3	4.9
Under 1 year . . . . .	466	3.7	227.3	2,792	3.2	1,360.8	6.0
1-4 years . . . . .	435	3.5	55.9	1,589	1.8	204.1	3.7
5-14 years . . . . .	533	4.3	29.0	2,600	3.0	141.4	4.9
15-44 years . . . . .	3,248	26.0	55.9	20,698	23.8	356.5	6.4
15-19 years . . . . .	362	2.9	41.6	2,318	2.7	266.5	6.4
20-24 years . . . . .	400	3.2	43.0	2,315	2.7	248.6	5.8
25-34 years . . . . .	1,131	9.1	54.2	7,547	8.7	361.6	6.7
35-44 years . . . . .	1,355	10.9	70.6	8,518	9.8	444.2	6.3
45-64 years . . . . .	3,088	24.7	137.5	20,157	23.2	897.4	6.5
45-54 years . . . . .	1,363	10.9	108.8	8,305	9.6	662.8	6.1
55-64 years . . . . .	1,724	13.8	173.7	11,851	13.6	1,193.5	6.9
65 years and over . . . . .	4,708	37.7	368.1	39,095	45.0	3,056.5	8.3
65-74 years . . . . .	2,352	18.8	293.2	18,654	21.5	2,325.3	7.9
75-84 years . . . . .	1,749	14.0	449.8	14,982	17.2	3,853.4	8.6
85 years and over . . . . .	607	4.9	688.8	5,460	6.3	6,197.2	9.0
Under 17 years . . . . .	1,571	12.6	49.6	7,902	9.1	249.7	5.0
17-69 years . . . . .	7,355	58.9	90.1	49,169	56.6	602.6	6.7
70 years and over . . . . .	3,552	28.5	428.0	29,859	34.3	3,597.5	8.4
Female							
All ages . . . . .	18,620	100.0	144.3	112,168	100.0	869.3	6.0
Under 15 years . . . . .	1,064	5.7	39.5	5,056	4.5	187.9	4.8
Under 1 year . . . . .	339	1.8	173.0	2,130	1.9	1,087.3	6.3
1-4 years . . . . .	300	1.6	40.4	1,062	0.9	143.0	3.5
5-14 years . . . . .	425	2.3	24.2	1,865	1.7	106.4	4.4
15-44 years . . . . .	8,372	45.0	142.1	33,322	29.7	565.6	4.0
15-19 years . . . . .	1,006	5.4	120.4	3,734	3.3	447.0	3.7
20-24 years . . . . .	1,716	9.2	183.2	6,070	5.4	648.3	3.5
25-34 years . . . . .	3,641	19.6	170.4	13,403	11.9	627.0	3.7
35-44 years . . . . .	2,009	10.8	101.4	10,116	9.0	510.4	5.0
45-64 years . . . . .	3,085	16.6	127.2	19,944	17.8	822.4	6.5
45-54 years . . . . .	1,431	7.7	108.6	8,554	7.6	649.2	6.0
55-64 years . . . . .	1,654	8.9	149.4	11,389	10.2	1,028.6	6.9
65 years and over . . . . .	6,098	32.8	321.6	53,846	48.0	2,839.6	8.8
65-74 years . . . . .	2,478	13.3	241.5	20,295	18.1	1,978.5	8.2
75-84 years . . . . .	2,387	12.8	371.5	22,072	19.7	3,434.8	9.2
85 years and over . . . . .	1,233	6.6	541.1	11,479	10.2	5,036.9	9.3
Under 17 years . . . . .	1,316	7.1	43.7	6,137	5.5	203.6	4.7
17-69 years . . . . .	12,386	66.5	144.9	61,526	54.9	719.9	5.0
70 years and over . . . . .	4,918	26.4	366.5	44,505	39.7	3,317.1	9.1

**Table 2. Number, percent distribution, and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex, race, and age: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants]

Sex, race, and age	Discharged patients			Days of care			Average length of stay in days
	Number in thousands	Percent distribution	Rate per 1,000 population	Number in thousands	Percent distribution	Rate per 1,000 population	
Both sexes							
All races, all ages . . . . .	31,098	100.0	124.1	199,099	100.0	794.6	6.4
Under 15 years . . . . .	2,498	8.0	45.3	12,037	6.0	218.3	4.8
15-44 years . . . . .	11,620	37.4	99.3	54,020	27.1	461.8	4.6
45-64 years . . . . .	6,173	19.9	132.2	40,100	20.1	858.5	6.5
65 years and over. . . . .	10,806	34.7	340.3	92,942	46.7	2,927.0	8.6
White, all ages . . . . .	20,816	66.9	99.3	135,198	67.9	644.9	6.5
Under 15 years . . . . .	1,421	4.6	32.4	6,277	3.2	142.9	4.4
15-44 years . . . . .	7,041	22.6	72.8	32,390	16.3	334.9	4.6
45-64 years . . . . .	4,247	13.7	105.0	26,982	13.6	667.4	6.4
65 years and over. . . . .	8,107	26.1	283.7	69,549	34.9	2,433.6	8.6
Black, all ages . . . . .	3,717	12.0	120.5	25,190	12.7	816.4	6.8
Under 15 years . . . . .	445	1.4	51.9	2,330	1.2	271.9	5.2
15-44 years . . . . .	1,803	5.8	119.9	9,714	4.9	645.7	5.4
45-64 years . . . . .	691	2.2	147.5	5,368	2.7	1,145.3	7.8
65 years and over. . . . .	778	2.5	304.7	7,778	3.9	3,046.6	10.0
All other, all ages. . . . .	1,036	3.3	103.0	5,749	2.9	571.2	5.5
Under 15 years . . . . .	115	0.4	43.5	619	0.3	234.6	5.4
15-44 years . . . . .	539	1.7	103.5	2,293	1.2	440.0	4.3
45-64 years . . . . .	178	0.6	111.5	1,088	0.5	682.9	6.1
65 years and over. . . . .	205	0.7	330.0	1,749	0.9	2,817.0	8.5
Race not stated, all ages . . . . .	5,528	17.8	...	32,961	16.6	...	6.0
Under 15 years . . . . .	517	1.7	...	2,812	1.4	...	5.4
15-44 years . . . . .	2,237	7.2	...	9,622	4.8	...	4.3
45-64 years . . . . .	1,058	3.4	...	6,662	3.3	...	6.3
65 years and over. . . . .	1,716	5.5	...	13,865	7.0	...	8.1
Male							
All races, all ages . . . . .	12,478	100.0	102.7	86,930	100.0	715.2	7.0
Under 15 years . . . . .	1,435	11.5	50.8	6,981	8.0	247.3	4.9
15-44 years . . . . .	3,248	26.0	55.9	20,698	23.8	356.5	6.4
45-64 years . . . . .	3,088	24.7	137.5	20,157	23.2	897.4	6.5
65 years and over. . . . .	4,708	37.7	368.1	39,095	45.0	3,056.5	8.3
White, all ages . . . . .	8,528	68.3	83.5	58,879	67.7	576.5	6.9
Under 15 years . . . . .	806	6.5	35.8	3,506	4.0	155.5	4.3
15-44 years . . . . .	2,041	16.4	42.2	12,402	14.3	256.1	6.1
45-64 years . . . . .	2,158	17.3	109.9	13,857	15.9	706.0	6.4
65 years and over. . . . .	3,523	28.2	305.4	29,114	33.5	2,523.7	8.3
Black, all ages . . . . .	1,423	11.4	98.2	11,039	12.7	761.7	7.8
Under 15 years . . . . .	259	2.1	59.7	1,398	1.6	322.5	5.4
15-44 years . . . . .	521	4.2	73.4	4,028	4.6	568.3	7.7
45-64 years . . . . .	328	2.6	156.9	2,502	2.9	1,198.1	7.6
65 years and over. . . . .	316	2.5	321.7	3,112	3.6	3,168.5	9.8
All other, all ages. . . . .	358	2.9	72.8	2,429	2.8	494.3	6.8
Under 15 years . . . . .	68	0.5	50.8	367	0.4	273.2	5.4
15-44 years . . . . .	108	0.9	42.3	762	0.9	298.6	7.1
45-64 years . . . . .	89	0.7	118.5	523	0.6	700.5	5.9
65 years and over. . . . .	93	0.7	337.8	777	0.9	2,825.7	8.4
Race not stated, all ages . . . . .	2,170	17.4	...	14,584	16.8	...	6.7
Under 15 years . . . . .	301	2.4	...	1,709	2.0	...	5.7
15-44 years . . . . .	578	4.6	...	3,507	4.0	...	6.1
45-64 years . . . . .	514	4.1	...	3,275	3.8	...	6.4
65 years and over. . . . .	776	6.2	...	6,093	7.0	...	7.9
Female							
All races, all ages . . . . .	18,620	100.0	144.3	112,168	100.0	869.3	6.0
Under 15 years . . . . .	1,064	5.7	39.5	5,056	4.5	187.9	4.8
15-44 years . . . . .	8,372	45.0	142.1	33,322	29.7	565.6	4.0
45-64 years . . . . .	3,085	16.6	127.2	19,944	17.8	822.4	6.5
65 years and over. . . . .	6,098	32.8	321.6	53,846	48.0	2,839.6	8.8
White, all ages . . . . .	12,288	66.0	114.3	76,319	68.0	709.9	6.2
Under 15 years . . . . .	615	3.3	28.8	2,770	2.5	129.6	4.5
15-44 years . . . . .	5,000	26.9	103.5	19,988	17.8	413.9	4.0
45-64 years . . . . .	2,089	11.2	100.4	13,125	11.7	630.9	6.3
65 years and over. . . . .	4,584	24.6	269.0	40,436	36.0	2,372.6	8.8

**Table 2. Number, percent distribution, and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex, race, and age: United States, 1991 – Con.**

[Discharges from non-Federal hospitals. Excludes newborn infants]

<i>Sex, race, and age</i>	<i>Discharged patients</i>			<i>Days of care</i>			<i>Average length of stay in days</i>
	<i>Number in thousands</i>	<i>Percent distribution</i>	<i>Rate per 1,000 population</i>	<i>Number in thousands</i>	<i>Percent distribution</i>	<i>Rate per 1,000 population</i>	
Black, all ages . . . . .	2,294	12.3	140.2	14,151	12.6	864.9	6.2
Under 15 years . . . . .	186	1.0	44.0	932	0.8	220.1	5.0
15–44 years . . . . .	1,283	6.9	161.2	5,687	5.1	714.7	4.4
45–64 years . . . . .	363	2.0	139.8	2,866	2.6	1,102.9	7.9
65 years and over. . . . .	462	2.5	294.0	4,666	4.2	2,970.3	10.1
All other, all ages. . . . .	679	3.6	131.8	3,320	3.0	644.7	4.9
Under 15 years . . . . .	46	0.2	35.9	252	0.2	194.5	5.4
15–44 years . . . . .	431	2.3	162.0	1,532	1.4	575.5	3.6
45–64 years . . . . .	89	0.5	105.1	565	0.5	666.6	6.3
65 years and over. . . . .	112	0.6	322.8	972	0.9	2,802.0	8.7
Race not stated, all ages . . . . .	3,359	18.0	...	18,378	16.4	...	5.5
Under 15 years . . . . .	216	1.2	...	1,103	1.0	...	5.1
15–44 years . . . . .	1,658	8.9	...	6,115	5.5	...	3.7
45–64 years . . . . .	544	2.9	...	3,388	3.0	...	6.2
65 years and over. . . . .	940	5.1	...	7,772	6.9	...	8.3

**Table 3. Number of patients discharged from short-stay hospitals, days of care, and average lengths of stay, by principal expected source of payment, geographic region, and age: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants]

<i>Region and age</i>	<i>All principal expected sources of payment<sup>1</sup></i>	<i>Private insurance</i>	<i>Medicare</i>	<i>Medicaid</i>	<i>Worker's compensation</i>	<i>Other government payments</i>	<i>Self- pay</i>	<i>Other payments and no charge</i>
<b>United States</b>								
Number of patients discharged in thousands								
All ages . . . . .	31,098	11,397	11,072	4,023	379	635	1,619	996
Under 15 years . . . . .	2,498	1,180	31	816	—	76	179	134
15–44 years . . . . .	11,620	6,097	434	2,504	236	373	1,010	526
45–64 years . . . . .	6,173	3,664	860	555	105	169	336	258
65 years and over . . . . .	10,806	456	9,747	147	38	17	94	78
<b>Northeast</b>								
All ages . . . . .	7,153	2,577	2,519	935	89	58	345	285
Under 15 years . . . . .	662	318	*7	196	—	*6	42	70
15–44 years . . . . .	2,522	1,307	108	546	53	33	222	131
45–64 years . . . . .	1,455	869	174	156	24	18	65	66
65 years and over . . . . .	2,515	82	2,230	37	12	*	16	18
<b>Midwest</b>								
All ages . . . . .	7,315	2,752	2,743	764	77	164	358	193
Under 15 years . . . . .	570	307	*5	155	—	19	40	26
15–44 years . . . . .	2,602	1,470	103	475	42	107	192	101
45–64 years . . . . .	1,441	897	189	109	21	37	75	54
65 years and over . . . . .	2,702	78	2,447	26	13	*	51	12
<b>South</b>								
All ages . . . . .	11,290	3,971	4,205	1,483	156	279	692	201
Under 15 years . . . . .	803	356	11	276	—	32	75	14
15–44 years . . . . .	4,216	2,156	139	950	104	155	440	108
45–64 years . . . . .	2,293	1,288	377	207	42	78	157	71
65 years and over . . . . .	3,978	170	3,677	50	10	13	20	*8
<b>West</b>								
All ages . . . . .	5,340	2,097	1,605	841	58	135	224	316
Under 15 years . . . . .	464	198	*8	189	—	19	21	24
15–44 years . . . . .	2,281	1,164	84	534	37	78	156	186
45–64 years . . . . .	983	609	120	84	17	36	39	66
65 years and over . . . . .	1,612	126	1,393	34	*	*	*8	40
<b>United States</b>								
Number of days of care in thousands								
All ages . . . . .	199,099	56,108	95,146	22,687	1,906	3,431	8,416	5,062
Under 15 years . . . . .	12,037	5,084	325	4,526	—	353	761	592
15–44 years . . . . .	54,020	26,268	3,758	11,975	1,108	1,778	4,589	2,515
45–64 years . . . . .	40,100	21,535	6,999	4,763	526	1,160	2,164	1,429
65 years and over . . . . .	92,942	3,221	84,065	1,424	272	140	902	525
<b>Northeast</b>								
All ages . . . . .	52,518	13,165	25,648	7,048	455	442	2,070	1,415
Under 15 years . . . . .	3,334	1,415	*162	1,086	—	*34	205	328
15–44 years . . . . .	13,227	5,580	993	3,855	232	234	1,172	586
45–64 years . . . . .	10,465	5,458	1,697	1,675	126	172	457	372
65 years and over . . . . .	25,491	712	22,796	433	98	*	235	128
<b>Midwest</b>								
All ages . . . . .	47,448	13,803	22,946	4,252	424	831	2,032	1,096
Under 15 years . . . . .	2,746	1,414	*32	850	—	78	155	122
15–44 years . . . . .	12,625	6,525	1,099	2,270	207	474	968	546
45–64 years . . . . .	9,298	5,268	1,526	929	127	270	433	325
65 years and over . . . . .	22,780	595	20,289	203	91	*	476	104
<b>South</b>								
All ages . . . . .	70,331	19,781	34,665	7,276	781	1,558	3,531	1,003
Under 15 years . . . . .	3,646	1,480	86	1,392	—	133	315	75
15–44 years . . . . .	19,054	9,667	1,089	3,750	527	785	1,977	507
45–64 years . . . . .	14,658	7,464	2,870	1,595	193	530	1,083	379
65 years and over . . . . .	32,973	1,170	30,620	540	61	111	156	*41

**Table 3. Number of patients discharged from short-stay hospitals, days of care, and average lengths of stay, by principal expected source of payment, geographic region, and age: United States, 1991—Con.**

[Discharges from non-Federal hospitals. Excludes newborn infants]

<i>Region and age</i>	<i>All principal expected sources of payment<sup>1</sup></i>	<i>Private insurance</i>	<i>Medicare</i>	<i>Medicaid</i>	<i>Worker's compensation</i>	<i>Other government payments</i>	<i>Self- pay</i>	<i>Other payments and no charge</i>
<b>West</b>								
Number of days of care in thousands								
All ages . . . . .	28,802	9,360	11,888	4,111	246	600	783	1,548
Under 15 years . . . . .	2,311	776	*45	1,198	—	108	86	67
15–44 years . . . . .	9,114	4,496	577	2,101	143	285	472	876
45–64 years . . . . .	5,679	3,345	906	564	81	188	190	353
65 years and over . . . . .	11,698	743	10,359	248	*	*	*35	251
<b>United States</b>								
Average length of stay in days								
All ages . . . . .	6.4	4.9	8.6	5.6	5.0	5.4	5.2	5.1
Under 15 years . . . . .	4.8	4.3	10.6	5.5	—	4.7	4.3	4.4
15–44 years . . . . .	4.6	4.3	8.7	4.8	4.7	4.8	4.5	4.8
45–64 years . . . . .	6.5	5.9	8.1	8.6	5.0	6.9	6.4	5.5
65 years and over . . . . .	8.6	7.1	8.6	9.7	7.2	8.3	9.6	6.7
<b>Northeast</b>								
All ages . . . . .	7.3	5.1	10.2	7.5	5.1	7.6	6.0	5.0
Under 15 years . . . . .	5.0	4.4	*23.4	5.5	—	5.5	4.8	4.7
15–44 years . . . . .	5.2	4.3	9.2	7.1	4.4	7.0	5.3	4.5
45–64 years . . . . .	7.2	6.3	9.7	10.8	5.2	9.6	7.0	5.6
65 years and over . . . . .	10.1	8.7	10.2	11.8	8.2	*	15.0	7.2
<b>Midwest</b>								
All ages . . . . .	6.5	5.0	8.4	5.6	5.5	5.1	5.7	5.7
Under 15 years . . . . .	4.8	4.6	*6.8	5.5	—	4.2	3.9	4.7
15–44 years . . . . .	4.9	4.4	10.7	4.8	4.9	4.5	5.0	5.4
45–64 years . . . . .	6.5	5.9	8.1	8.5	5.9	7.3	5.8	6.0
65 years and over . . . . .	8.4	7.7	8.3	7.8	7.0	*	9.4	8.4
<b>South</b>								
All ages . . . . .	6.2	5.0	8.2	4.9	5.0	5.6	5.1	5.0
Under 15 years . . . . .	4.5	4.2	7.5	5.0	—	4.1	4.2	5.2
15–44 years . . . . .	4.5	4.5	7.8	3.9	5.1	5.1	4.5	4.7
45–64 years . . . . .	6.4	5.8	7.6	7.7	4.6	6.8	6.9	5.3
65 years and over . . . . .	8.3	6.9	8.3	10.7	6.3	8.4	7.8	*5.5
<b>West</b>								
All ages . . . . .	5.4	4.5	7.4	4.9	4.3	4.4	3.5	4.9
Under 15 years . . . . .	5.0	3.9	*5.9	6.4	—	5.8	4.1	2.8
15–44 years . . . . .	4.0	3.9	6.9	3.9	3.8	3.6	3.0	4.7
45–64 years . . . . .	5.8	5.5	7.5	6.7	4.7	5.2	4.9	5.4
65 years and over . . . . .	7.3	5.9	7.4	7.2	*	*	*4.4	6.2

<sup>1</sup>Includes discharges for whom no expected source of payment was provided.

**Table 4. Number and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex, age, and geographic region: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants]

Sex, age, and region	Discharged patients		Days of care		Average length of stay in days
	Number in thousands	Rate per 1,000 population	Number in thousands	Rate per 1,000 population	
Both sexes					
All ages:					
United States . . . . .	31,098	124.1	199,099	794.6	6.4
Northeast . . . . .	7,153	140.6	52,518	1,032.4	7.3
Midwest . . . . .	7,315	121.7	47,448	789.6	6.5
South . . . . .	11,290	131.2	70,331	817.2	6.2
West . . . . .	5,340	99.7	28,802	538.0	5.4
Under 15 years:					
United States . . . . .	2,498	45.3	12,037	218.3	4.8
Northeast . . . . .	662	64.5	3,334	324.9	5.0
Midwest . . . . .	570	42.7	2,746	205.7	4.8
South . . . . .	803	42.3	3,646	192.3	4.5
West . . . . .	464	37.0	2,311	184.0	5.0
15-44 years:					
United States . . . . .	11,620	99.3	54,020	461.8	4.6
Northeast . . . . .	2,522	106.7	13,227	559.9	5.2
Midwest . . . . .	2,602	94.0	12,625	456.2	4.9
South . . . . .	4,216	105.4	19,054	476.5	4.5
West . . . . .	2,281	88.8	9,114	354.8	4.0
45-64 years:					
United States . . . . .	6,173	132.2	40,100	858.5	6.5
Northeast . . . . .	1,455	146.4	10,465	1,052.9	7.2
Midwest . . . . .	1,441	128.6	9,298	829.8	6.5
South . . . . .	2,293	141.7	14,658	905.7	6.4
West . . . . .	983	104.8	5,679	605.5	5.8
65 years and over:					
United States . . . . .	10,806	340.3	92,942	2,927.0	8.6
Northeast . . . . .	2,515	357.0	25,491	3,619.4	10.1
Midwest . . . . .	2,702	343.9	22,780	2,899.3	8.4
South . . . . .	3,978	363.5	32,973	3,013.4	8.3
West . . . . .	1,612	272.6	11,698	1,979.1	7.3
Male					
All ages:					
United States . . . . .	12,478	102.7	86,930	715.2	7.0
Northeast . . . . .	3,047	124.7	23,247	951.4	7.6
Midwest . . . . .	2,995	102.8	20,740	711.8	6.9
South . . . . .	4,418	106.6	30,159	727.5	6.8
West . . . . .	2,018	76.1	12,785	482.2	6.3
Under 15 years:					
United States . . . . .	1,435	50.8	6,981	247.3	4.9
Northeast . . . . .	378	71.9	1,863	354.5	4.9
Midwest . . . . .	334	48.8	1,636	239.3	4.9
South . . . . .	458	47.2	2,183	225.2	4.8
West . . . . .	265	41.2	1,298	201.7	4.9
15-44 years:					
United States . . . . .	3,248	55.9	20,698	356.5	6.4
Northeast . . . . .	834	71.4	5,525	472.7	6.6
Midwest . . . . .	750	54.6	4,880	354.8	6.5
South . . . . .	1,126	57.4	6,922	352.7	6.1
West . . . . .	537	41.3	3,371	259.4	6.3
45-64 years:					
United States . . . . .	3,088	137.5	20,157	897.4	6.5
Northeast . . . . .	723	153.0	5,204	1,100.4	7.2
Midwest . . . . .	735	135.8	4,566	843.3	6.2
South . . . . .	1,138	147.3	7,514	972.5	6.6
West . . . . .	491	107.0	2,873	625.8	5.8
65 years and over:					
United States . . . . .	4,708	368.1	39,095	3,056.5	8.3
Northeast . . . . .	1,112	403.2	10,654	3,863.1	9.6
Midwest . . . . .	1,175	374.9	9,658	3,080.8	8.2
South . . . . .	1,696	384.6	13,540	3,070.9	8.0
West . . . . .	725	291.4	5,243	2,107.2	7.2

**Table 4. Number and rate of patients discharged from short-stay hospitals and of days of care, with average lengths of stay, by sex, age, and geographic region: United States, 1991 – Con.**

[Discharges from non-Federal hospitals. Excludes newborn infants]

Sex, age, and region	Discharged patients		Days of care		Average length of stay in days
	Number in thousands	Rate per 1,000 population	Number in thousands	Rate per 1,000 population	
Female					
All ages:					
United States . . . . .	18,620	144.3	112,168	869.3	6.0
Northeast . . . . .	4,106	155.3	29,271	1,107.1	7.1
Midwest . . . . .	4,321	139.6	26,708	862.9	6.2
South . . . . .	6,871	154.0	40,172	900.5	5.8
West . . . . .	3,322	122.9	16,017	592.7	4.8
Under 15 years:					
United States . . . . .	1,064	39.5	5,056	187.9	4.8
Northeast . . . . .	284	56.7	1,471	293.8	5.2
Midwest . . . . .	236	36.2	1,110	170.4	4.7
South . . . . .	345	37.2	1,463	158.0	4.2
West . . . . .	199	32.5	1,013	165.4	5.1
15–44 years:					
United States . . . . .	8,372	142.1	33,322	565.6	4.0
Northeast . . . . .	1,688	141.4	7,702	645.3	4.6
Midwest . . . . .	1,852	133.0	7,745	556.2	4.2
South . . . . .	3,089	151.7	12,132	595.9	3.9
West . . . . .	1,744	137.4	5,743	452.5	3.3
45–64 years:					
United States . . . . .	3,085	127.2	19,944	822.4	6.5
Northeast . . . . .	732	140.5	5,261	1,010.0	7.2
Midwest . . . . .	706	121.9	4,732	817.0	6.7
South . . . . .	1,155	136.6	7,144	844.6	6.2
West . . . . .	492	102.7	2,806	586.0	5.7
65 years and over:					
United States . . . . .	6,098	321.6	53,846	2,839.6	8.8
Northeast . . . . .	1,403	327.2	14,837	3,460.9	10.6
Midwest . . . . .	1,527	323.3	13,121	2,778.8	8.6
South . . . . .	2,282	349.4	19,433	2,975.0	8.5
West . . . . .	887	258.9	6,456	1,885.4	7.3

**Table 5. Number, percent distribution, and rate of women with deliveries discharged from short-stay hospitals and of days of care, with average lengths of stay, by age, race, and geographic region: United States, 1991**

[Discharges from non-Federal hospitals]

<i>Age, race, and region</i>	<i>Discharged patients</i>			<i>Days of care</i>			<i>Average length of stay in days</i>
	<i>Number in thousands</i>	<i>Percent distribution</i>	<i>Rate per 1,000 population</i>	<i>Number in thousands</i>	<i>Percent distribution</i>	<i>Rate per 1,000 population</i>	
10–54 years . . . . .	3,973	100.0	49.2	11,028	100.0	136.6	2.8
Age							
10–14 years . . . . .	14	0.3	1.6	33	0.3	3.8	2.4
15–44 years . . . . .	3,956	99.6	67.2	10,987	99.6	186.5	2.8
15–19 years . . . . .	524	13.2	62.8	1,475	13.4	176.6	2.8
20–24 years . . . . .	1,041	26.2	111.2	2,794	25.3	298.4	2.7
25–29 years . . . . .	1,166	29.3	113.4	3,273	29.7	318.4	2.8
30–34 years . . . . .	852	21.5	76.8	2,350	21.3	211.8	2.8
35–44 years . . . . .	373	9.4	18.8	1,095	9.9	55.3	2.9
45–54 years . . . . .	*	*	*	*	*	*	*
10–17 years . . . . .	202	5.1	15.0	537	4.9	39.8	2.7
18–54 years . . . . .	3,771	94.9	56.1	10,491	95.1	156.1	2.8
Race							
White . . . . .	2,244	56.5	33.8	6,130	55.6	92.3	2.7
Black . . . . .	557	14.0	51.8	1,691	15.3	157.1	3.0
All other . . . . .	289	7.3	80.9	765	6.9	214.5	2.7
Race not stated . . . . .	883	22.2	...	2,442	22.1	...	2.8
Region							
Northeast . . . . .	670	16.9	41.1	2,098	19.0	128.7	3.1
Midwest . . . . .	875	22.0	45.6	2,491	22.6	129.8	2.8
South . . . . .	1,418	35.7	50.7	4,117	37.3	147.3	2.9
West . . . . .	1,010	25.4	58.5	2,322	21.1	134.5	2.3



**Table 6. Number of patients discharged from short-stay hospitals, by age and first-listed diagnosis: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

First-listed diagnosis and ICD-9-CM code	All ages	Under 15 years	15-44 years	45-64 years	65 years and over
Number of patients discharged in thousands					
All conditions . . . . .	31,098	2,498	11,620	6,173	10,806
Infectious and parasitic diseases . . . . . 001-139	759	207	218	101	232
Septicemia . . . . . 038	240	20	22	39	159
Neoplasms . . . . . 140-239	2,001	52	363	626	960
Malignant neoplasms . . . . . 140-208,230-234	1,594	40	172	499	883
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	168	*	*5	39	124
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	236	*	10	101	125
Malignant neoplasm of breast . . . . . 174-175,198.81	158	*	25	59	73
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229,235-239	407	13	191	126	77
Endocrine, nutritional and metabolic diseases, and immunity disorders . . . . . 240-279	1,143	95	251	269	528
Diabetes mellitus . . . . . 250	429	21	121	128	160
Volume depletion . . . . . 276.5	329	50	46	44	189
Diseases of the blood and blood-forming organs . . . . . 280-289	348	59	110	58	121
Mental disorders . . . . . 290-319	1,657	61	1,009	328	260
Psychoses . . . . . 290-299	902	24	488	189	201
Alcohol dependence syndrome . . . . . 303	228	*	152	60	16
Diseases of the nervous system and sense organs . . . . . 320-389	755	147	195	153	261
Diseases of the central nervous system . . . . . 320-336,340-349	331	52	117	64	98
Diseases of the ear and mastoid process . . . . . 380-389	144	71	26	22	26
Diseases of the circulatory system . . . . . 390-459	5,338	28	396	1,509	3,405
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	3,704	17	232	1,095	2,361
Acute myocardial infarction . . . . . 410	697	*	45	228	424
Coronary atherosclerosis . . . . . 414.0	384	-	22	172	190
Other ischemic heart disease . . . . . 411-413,414.1-414.9	876	*	48	313	514
Cardiac dysrhythmias . . . . . 427	536	*5	41	129	361
Congestive heart failure . . . . . 428.0	764	*	19	126	615
Cerebrovascular disease . . . . . 430-438	835	*	35	156	640
Diseases of the respiratory system . . . . . 460-519	3,052	736	500	530	1,286
Acute respiratory infections . . . . . 460-466	518	220	68	75	156
Chronic disease of tonsils and adenoids . . . . . 474	76	52	22	*	*
Pneumonia . . . . . 480-486	1,088	214	133	152	589
Asthma . . . . . 493	490	187	128	85	90
Diseases of the digestive system . . . . . 520-579	3,256	244	950	851	1,211
Ulcers of the stomach and small intestine . . . . . 531-534	237	*	43	69	124
Appendicitis . . . . . 540-543	232	55	138	26	12
Inguinal hernia . . . . . 550	135	22	26	41	46
Noninfectious enteritis and colitis . . . . . 555-558	351	91	108	62	90
Cholelithiasis . . . . . 574	552	*	195	187	168
Diseases of the genitourinary system . . . . . 580-629	2,071	72	847	457	695
Calculus of kidney and ureter . . . . . 592	241	*	117	84	40
Hyperplasia of prostate . . . . . 600	229	-	*	49	180
Complications of pregnancy, childbirth, and the puerperium <sup>1</sup> . . . . . 630-676	723	*	718	*	...
Abortions and ectopic and molar pregnancies . . . . . 630-639	180	*	178	*	...
Diseases of the skin and subcutaneous tissue . . . . . 680-709	462	49	142	108	162
Cellulitis and abscess . . . . . 681-682	297	31	94	77	95
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	1,600	50	548	450	553
Arthropathies and related disorders . . . . . 710-719	526	14	125	125	261
Intervertebral disc disorders . . . . . 722	391	*	209	132	51
Congenital anomalies . . . . . 740-759	192	125	37	21	10
Certain conditions originating in the perinatal period . . . . . 760-779	147	146	*	-	*
Symptoms, signs, and ill-defined conditions . . . . . 780-799	386	63	146	115	62
Injury and poisoning . . . . . 800-999	2,768	286	1,102	492	888
Fractures, all sites . . . . . 800-829	1,034	104	320	158	452
Fracture of neck of femur . . . . . 820	300	*	10	27	259
Intracranial injuries (excluding those with skull fracture) . . . . . 850-854	180	30	96	20	34
Lacerations and open wounds . . . . . 870-904	193	25	128	24	16
Supplementary classifications . . . . . V01-V82	4,438	76	4,089	105	169
Females with deliveries . . . . . V27	3,973	14	3,956	*	...

<sup>1</sup>First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 7. Rate of patients discharged from short-stay hospitals, by age and first-listed diagnosis: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

First-listed diagnosis and ICD-9-CM code	All ages	Under 15 years	15-44 years	45-64 years	65 years and over
Rate of patients discharged per 10,000 population					
All conditions . . . . .	1,241.1	453.2	993.4	1,321.6	3,403.1
Infectious and parasitic diseases . . . . . 001-139	30.3	37.5	18.7	21.7	73.2
Septicemia . . . . . 038	9.6	3.7	1.9	8.3	50.2
Neoplasms . . . . . 140-239	79.9	9.5	31.0	133.9	302.3
Malignant neoplasms . . . . . 140-208,230-234	63.6	7.2	14.7	106.9	278.1
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	6.7	*	*0.4	8.3	39.0
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	9.4	*	0.8	21.6	39.3
Malignant neoplasm of breast . . . . . 174-175,198.81	6.3	*	2.2	12.5	23.1
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229,235-239	16.2	2.3	16.3	27.0	24.3
Endocrine, nutritional and metabolic diseases, and immunity disorders . . . . . 240-279	45.6	17.2	21.5	57.6	166.4
Diabetes mellitus . . . . . 250	17.1	3.7	10.4	27.4	50.3
Volume depletion . . . . . 276.5	13.1	9.1	3.9	9.4	59.6
Diseases of the blood and blood-forming organs . . . . . 280-289	13.9	10.7	9.4	12.4	38.2
Mental disorders . . . . . 290-319	66.1	11.0	86.2	70.3	81.9
Psychoses . . . . . 290-299	36.0	4.3	41.7	40.5	63.3
Alcohol dependence syndrome . . . . . 303	9.1	*	13.0	12.9	5.0
Diseases of the nervous system and sense organs . . . . . 320-389	30.1	26.6	16.6	32.8	82.2
Diseases of the central nervous system . . . . . 320-336,340-349	13.2	9.5	10.0	13.7	30.8
Diseases of the ear and mastoid process . . . . . 380-389	5.8	12.8	2.2	4.7	8.2
Diseases of the circulatory system . . . . . 390-459	213.1	5.1	33.9	323.1	1,072.4
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	147.8	3.0	19.8	234.3	743.5
Acute myocardial infarction . . . . . 410	27.8	*	3.8	48.8	133.5
Coronary atherosclerosis . . . . . 414.0	15.3	-	1.9	36.8	60.0
Other ischemic heart disease . . . . . 411-413,414.1-414.9	35.0	*	4.1	67.0	161.7
Cardiac dysrhythmias . . . . . 427	21.4	*1.0	3.5	27.5	113.8
Congestive heart failure . . . . . 428.0	30.5	*	1.6	27.0	193.6
Cerebrovascular disease . . . . . 430-438	33.3	*	3.0	33.5	201.5
Diseases of the respiratory system . . . . . 460-519	121.8	133.6	42.7	113.4	405.2
Acute respiratory infections . . . . . 460-466	20.7	39.8	5.8	16.0	49.2
Chronic disease of tonsils and adenoids . . . . . 474	3.0	9.5	1.9	*	*
Pneumonia . . . . . 480-486	43.4	38.9	11.4	32.5	185.5
Asthma . . . . . 493	19.6	33.9	10.9	18.2	28.5
Diseases of the digestive system . . . . . 520-579	129.9	44.3	81.2	182.1	381.5
Ulcers of the stomach and small intestine . . . . . 531-534	9.5	*	3.6	14.8	39.1
Appendicitis . . . . . 540-543	9.2	10.1	11.8	5.6	3.8
Inguinal hernia . . . . . 550	5.4	4.0	2.2	8.8	14.5
Noninfectious enteritis and colitis . . . . . 555-558	14.0	16.5	9.2	13.4	28.4
Cholelithiasis . . . . . 574	22.0	*	16.7	39.9	53.0
Diseases of the genitourinary system . . . . . 580-629	82.7	13.0	72.4	97.9	218.9
Calculus of kidney and ureter . . . . . 592	9.6	*	10.0	18.0	12.6
Hyperplasia of prostate . . . . . 600	9.2	-	*	10.4	56.7
Complications of pregnancy, childbirth, and the puerperium <sup>1</sup> . . . . . 630-676	28.8	*	61.4	*	...
Abortions and ectopic and molar pregnancies . . . . . 630-639	7.2	*	15.3	*	...
Diseases of the skin and subcutaneous tissue . . . . . 680-709	18.4	8.9	12.1	23.2	51.1
Cellulitis and abscess . . . . . 681-682	11.9	5.6	8.0	16.5	30.0
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	63.9	9.0	46.8	96.3	174.1
Arthropathies and related disorders . . . . . 710-719	21.0	2.6	10.7	26.7	82.3
Intervertebral disc disorders . . . . . 722	15.6	*	17.8	28.3	15.9
Congenital anomalies . . . . . 740-759	7.7	22.6	3.1	4.4	3.2
Certain conditions originating in the perinatal period . . . . . 760-779	5.9	26.4	*	-	*
Symptoms, signs, and ill-defined conditions . . . . . 780-799	15.4	11.3	12.5	24.6	19.7
Injury and poisoning . . . . . 800-999	110.5	51.9	94.2	105.4	279.5
Fractures, all sites . . . . . 800-829	41.3	18.9	27.4	33.8	142.4
Fracture of neck of femur . . . . . 820	12.0	*	0.9	5.8	81.4
Intracranial injuries (excluding those with skull fracture) . . . . . 850-854	7.2	5.5	8.2	4.3	10.8
Lacerations and open wounds . . . . . 870-904	7.7	4.5	11.0	5.2	5.0
Supplementary classifications . . . . . V01-V82	177.1	13.8	349.5	22.4	53.2
Females with deliveries . . . . . V27	158.6	2.5	338.2	*	...

<sup>1</sup>First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

NOTE: see "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 8. Average length of stay for patients discharged from short-stay hospitals, by age and first-listed diagnosis: United States, 1991**  
 [Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

First-listed diagnosis and ICD-9-CM code	All ages	Under 15 years	15-44 years	45-64 years	65 years and over
Average length of stay in days					
All conditions . . . . .	6.4	4.8	4.6	6.5	8.6
Infectious and parasitic diseases . . . . . 001-139	8.5	3.8	8.6	11.3	11.3
Septicemia . . . . . 038	11.6	6.1	11.1	11.7	12.3
Neoplasms . . . . . 140-239	8.2	6.3	5.5	7.5	9.8
Malignant neoplasms . . . . . 140-208,230-234	9.2	7.0	7.4	8.2	10.1
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	14.6	*	*8.1	10.7	16.1
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	8.6	*	5.9	7.8	9.5
Malignant neoplasm of breast . . . . . 174-175,198.81	4.4	*	3.8	4.6	4.5
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229,235-239	4.5	4.1	3.8	4.4	6.1
Endocrine, nutritional and metabolic diseases, and immunity disorders . . . . . 240-279	7.1	4.3	4.6	6.9	8.9
Diabetes mellitus . . . . . 250	7.1	4.8	4.7	7.5	8.9
Volume depletion . . . . . 276.5	7.5	2.9	4.0	6.8	9.8
Diseases of the blood and blood-forming organs . . . . . 280-289	6.2	4.3	5.6	6.6	7.5
Mental disorders . . . . . 290-319	11.4	15.9	11.0	10.8	12.8
Psychoses . . . . . 290-299	13.5	17.3	13.1	13.3	14.1
Alcohol dependence syndrome . . . . . 303	9.5	*	9.9	8.3	9.5
Diseases of the nervous system and sense organs . . . . . 320-389	5.7	4.3	4.8	5.5	7.2
Diseases of the central nervous system . . . . . 320-336,340-349	8.8	6.7	5.6	9.1	13.7
Diseases of the ear and mastoid process . . . . . 380-389	2.8	2.6	3.2	2.5	3.3
Diseases of the circulatory system . . . . . 390-459	7.3	10.1	5.6	6.4	7.9
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	6.8	13.4	5.5	6.3	7.2
Acute myocardial infarction . . . . . 410	8.1	*	5.9	7.2	8.8
Coronary atherosclerosis . . . . . 414.0	7.1	-	5.4	8.0	6.5
Other ischemic heart disease . . . . . 411-413,414.1-414.9	5.0	*	3.9	4.3	5.6
Cardiac dysrhythmias . . . . . 427	5.3	*4.0	3.6	4.8	5.6
Congestive heart failure . . . . . 428.0	7.9	*	7.4	7.6	7.9
Cerebrovascular disease . . . . . 430-438	9.3	*	9.4	7.9	9.7
Diseases of the respiratory system . . . . . 460-519	6.8	3.5	5.0	7.0	9.2
Acute respiratory infections . . . . . 460-466	4.8	3.1	4.2	5.5	7.0
Chronic disease of tonsils and adenoids . . . . . 474	1.2	1.2	1.2	*	*
Pneumonia . . . . . 480-486	8.2	4.1	6.5	7.9	10.2
Asthma . . . . . 493	4.5	3.0	4.5	5.2	7.2
Diseases of the digestive system . . . . . 520-579	5.9	3.7	4.8	5.5	7.6
Ulcers of the stomach and small intestine . . . . . 531-534	6.9	*	4.6	5.6	8.5
Appendicitis . . . . . 540-543	4.2	3.9	3.7	5.7	8.6
Inguinal hernia . . . . . 550	2.4	1.5	1.5	1.8	3.8
Noninfectious enteritis and colitis . . . . . 555-558	5.6	3.3	5.1	6.5	7.7
Cholelithiasis . . . . . 574	5.0	*	4.6	4.0	6.4
Diseases of the genitourinary system . . . . . 580-629	4.8	4.0	3.7	4.7	6.5
Calculus of kidney and ureter . . . . . 592	2.7	*	2.4	2.8	3.6
Hyperplasia of prostate . . . . . 600	5.3	-	*	7.3	4.8
Complications of pregnancy, childbirth, and the puerperium <sup>1</sup> . . . . . 630-676	2.9	*	2.9	*	...
Abortions and ectopic and molar pregnancies . . . . . 630-639	2.4	*	2.4	*	...
Diseases of the skin and subcutaneous tissue . . . . . 680-709	8.4	3.8	7.3	7.8	11.2
Cellulitis and abscess . . . . . 681-682	7.1	3.7	6.0	7.2	9.3
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	6.4	5.4	4.7	5.5	8.9
Arthropathies and related disorders . . . . . 710-719	7.4	5.3	4.1	6.7	9.4
Intervertebral disc disorders . . . . . 722	5.0	*	4.5	4.7	7.5
Congenital anomalies . . . . . 740-759	6.2	6.8	4.5	5.9	5.5
Certain conditions originating in the perinatal period . . . . . 760-779	10.7	10.7	*	-	*
Symptoms, signs, and ill-defined conditions . . . . . 780-799	3.0	2.5	2.6	2.7	5.2
Injury and poisoning . . . . . 800-999	6.9	4.5	5.5	6.5	9.6
Fractures, all sites . . . . . 800-829	8.4	5.4	6.1	7.2	11.3
Fracture of neck of femur . . . . . 820	12.3	*	7.4	10.4	12.8
Intracranial injuries (excluding those with skull fracture) . . . . . 850-854	5.8	2.5	5.9	8.0	7.1
Lacerations and open wounds . . . . . 870-904	4.9	3.4	5.2	4.3	5.2
Supplementary classifications . . . . . V01-V82	3.3	4.7	2.8	5.8	12.1
Females with deliveries . . . . . V27	2.8	2.4	2.8	*	...

<sup>1</sup>First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the *International Classification of diseases, 9th Revision, Clinical Modification* (ICD-9-CM)]

NOTE: See "Medical Coding and Edit," Appendix 1, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 10. Rate of patients discharged from short-stay hospitals, by sex and first-listed diagnosis: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM)]

First-listed diagnosis and ICD-9-CM Code	Both sexes	Male	Female
Rate of patients discharged per 10,000 population			
All conditions . . . . .	1,241.1	1,026.7	1,443.1
Infectious and parasitic diseases . . . . . 001-139	30.3	29.8	30.7
Septicemia . . . . . .038	9.6	8.5	10.6
Neoplasms . . . . . 140-239	79.9	70.7	88.4
Malignant neoplasms . . . . . 140-208,230-234	63.6	64.3	63.0
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	6.7	7.0	6.4
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	9.4	12.1	6.9
Malignant neoplasm of breast . . . . . 174-175,198.81	6.3	*	12.1
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229,235-239	16.2	6.4	25.5
Endocrine, nutritional and metabolic diseases, and immunity disorders . . . . . 240-279	45.6	35.9	54.7
Diabetes mellitus . . . . . .250	17.1	15.2	19.0
Volume depletion . . . . . 276.5	13.1	10.0	16.1
Diseases of the blood and blood-forming organs . . . . . 280-289	13.9	13.7	14.1
Mental disorders . . . . . 290-319	66.1	69.1	63.4
Psychoses . . . . . 290-299	36.0	34.2	37.7
Alcohol dependence syndrome . . . . . .303	9.1	14.2	4.3
Diseases of the nervous system and sense organs . . . . . 320-389	30.1	28.9	31.3
Diseases of the central nervous system . . . . . 320-336,340-349	13.2	13.1	13.3
Diseases of the ear and mastoid process . . . . . 380-389	5.8	6.0	5.6
Diseases of the circulatory system . . . . . 390-459	213.1	224.4	202.3
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	147.8	162.6	133.9
Acute myocardial infarction . . . . . .410	27.8	34.7	21.3
Coronary atherosclerosis . . . . . 414.0	15.3	21.7	9.3
Other ischemic heart disease . . . . . 411-413,414.1-414.9	35.0	37.9	32.1
Cardiac dysrhythmias . . . . . .427	21.4	20.5	22.3
Congestive heart failure . . . . . 428.0	30.5	29.6	31.4
Cerebrovascular disease . . . . . 430-438	33.3	30.4	36.1
Diseases of the respiratory system . . . . . 460-519	121.8	124.1	119.7
Acute respiratory infections . . . . . 460-466	20.7	21.2	20.2
Chronic disease of tonsils and adenoids . . . . . .474	3.0	2.6	3.4
Pneumonia . . . . . 480-486	43.4	44.8	42.1
Asthma . . . . . .493	19.6	18.2	20.9
Diseases of the digestive system . . . . . 520-579	129.9	119.7	139.6
Ulcers of the stomach and small intestine . . . . . 531-534	9.5	10.3	8.7
Appendicitis . . . . . 540-543	9.2	10.6	8.0
Inguinal hernia . . . . . .550	5.4	9.9	1.1
Noninfectious enteritis and colitis . . . . . 555-558	14.0	11.7	16.2
Cholelithiasis . . . . . .574	22.0	13.1	30.4
Diseases of the genitourinary system . . . . . 580-629	82.7	64.2	100.0
Calculus of kidney and ureter . . . . . .592	9.6	13.2	6.3
Hyperplasia of prostate . . . . . .600	9.2	18.9	...
Complications of pregnancy, childbirth, and the puerperium <sup>1</sup> . . . . . 630-676	28.8	...	56.0
Abortions and ectopic and molar pregnancies . . . . . 630-639	7.2	...	13.9
Diseases of the skin and subcutaneous tissue . . . . . 680-709	18.4	20.1	16.8
Cellulitis and abscess . . . . . 681-682	11.9	13.6	10.2
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	63.9	60.7	66.8
Arthropathies and related disorders . . . . . 710-719	21.0	18.7	23.1
Intervertebral disc disorders . . . . . .722	15.6	18.5	12.9
Congenital anomalies . . . . . 740-759	7.7	8.3	7.1
Certain conditions originating in the perinatal period . . . . . 760-779	5.9	6.5	5.3
Symptoms, signs, and ill-defined conditions . . . . . 780-799	15.4	16.6	14.3
Injury and poisoning . . . . . 800-999	110.5	118.2	103.2
Fractures, all sites . . . . . 800-829	41.3	39.6	42.9
Fracture of neck of femur . . . . . .820	12.0	6.6	17.0
Intracranial injuries (excluding those with skull fracture) . . . . . 850-854	7.2	8.7	5.7
Lacerations and open wounds . . . . . 870-904	7.7	11.3	4.4
Supplementary classifications . . . . . V01-V82	177.1	15.5	329.4
Females with deliveries . . . . . .V27	158.6	...	307.9

<sup>1</sup>First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 11. Average length of stay for patients discharged from short-stay hospitals, by sex and first-listed diagnosis: United States, 1991**[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

First-listed diagnosis and ICD-9-CM code	Both sexes	Male	Female
Average length of stay in days			
All conditions . . . . .	6.4	7.0	6.0
Infectious and parasitic diseases . . . . . 001-139	8.5	8.9	8.1
Septicemia . . . . . 038	11.6	11.7	11.5
Neoplasms . . . . . 140-239	8.2	9.2	7.5
Malignant neoplasms . . . . . 140-208,230-234	9.2	9.7	8.7
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	14.6	16.7	12.4
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	8.6	8.5	8.7
Malignant neoplasm of breast . . . . . 174-175,198.81	4.4	*	4.4
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229,235-239	4.5	4.6	4.4
Endocrine, nutritional and metabolic diseases, and immunity disorders . . . . . 240-279	7.1	7.1	7.1
Diabetes mellitus . . . . . 250	7.1	6.8	7.3
Volume depletion . . . . . 276.5	7.5	8.5	6.9
Diseases of the blood and blood-forming organs . . . . . 280-289	6.2	6.1	6.3
Mental disorders . . . . . 290-319	11.4	11.0	11.9
Psychoses . . . . . 290-299	13.5	13.0	13.8
Alcohol dependence syndrome . . . . . 303	9.5	9.1	10.6
Diseases of the nervous system and sense organs . . . . . 320-389	5.7	5.8	5.6
Diseases of the central nervous system . . . . . 320-336,340-349	8.8	8.7	9.0
Diseases of the ear and mastoid process . . . . . 380-389	2.8	2.7	3.0
Diseases of the circulatory system . . . . . 390-459	7.3	7.0	7.6
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	6.8	6.7	7.0
Acute myocardial infarction . . . . . 410	8.1	7.5	9.1
Coronary atherosclerosis . . . . . 414.0	7.1	7.4	6.5
Other ischemic heart disease . . . . . 411-413,414.1-414.9	5.0	5.0	5.1
Cardiac dysrhythmias . . . . . 427	5.3	5.0	5.5
Congestive heart failure . . . . . 428.0	7.9	7.5	8.4
Cerebrovascular disease . . . . . 430-438	9.3	9.1	9.6
Diseases of the respiratory system . . . . . 460-519	6.8	6.4	7.1
Acute respiratory infections . . . . . 460-466	4.8	4.1	5.4
Chronic disease of tonsils and adenoids . . . . . 474	1.2	1.3	1.1
Pneumonia . . . . . 480-486	8.2	7.9	8.5
Asthma . . . . . 493	4.5	4.1	4.9
Diseases of the digestive system . . . . . 520-579	5.9	5.9	5.9
Ulcers of the stomach and small intestine . . . . . 531-534	6.9	6.6	7.3
Appendicitis . . . . . 540-543	4.2	4.2	4.3
Inguinal hernia . . . . . 550	2.4	2.4	2.5
Noninfectious enteritis and colitis . . . . . 555-558	5.6	5.8	5.4
Cholelithiasis . . . . . 574	5.0	5.3	4.8
Diseases of the genitourinary system . . . . . 580-629	4.8	5.3	4.5
Calculus of kidney and ureter . . . . . 592	2.7	2.5	3.2
Hyperplasia of prostate . . . . . 600	5.3	5.3	...
Complications of pregnancy, childbirth, and the puerperium <sup>1</sup> . . . . . 630-676	2.9	...	2.9
Abortions and ectopic and molar pregnancies . . . . . 630-639	2.4	...	2.4
Diseases of the skin and subcutaneous tissue . . . . . 680-709	8.4	8.0	8.9
Cellulitis and abscess . . . . . 681-682	7.1	7.0	7.3
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	6.4	5.7	7.0
Arthropathies and related disorders . . . . . 710-719	7.4	6.6	8.0
Intervertebral disc disorders . . . . . 722	5.0	4.5	5.6
Congenital anomalies . . . . . 740-759	6.2	6.2	6.2
Certain conditions originating in the perinatal period . . . . . 760-779	10.7	11.3	10.1
Symptoms, signs, and ill-defined conditions . . . . . 780-799	3.0	3.0	3.0
Injury and poisoning . . . . . 800-999	6.9	6.3	7.6
Fractures, all sites . . . . . 800-829	8.4	7.3	9.4
Fracture of neck of femur . . . . . 820	12.3	10.9	12.8
Intracranial injuries (excluding those with skull fracture) . . . . . 850-854	5.8	6.2	5.2
Lacerations and open wounds . . . . . 870-904	4.9	3.7	7.8
Supplementary classifications . . . . . V01-V82	3.3	7.5	3.1
Females with deliveries . . . . . V27	2.8	...	2.8

<sup>1</sup>First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 12. Number of patients discharged from short-stay hospitals, by race and first-listed diagnosis: United states, 1991**[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

<i>First-listed diagnosis and ICD-9-CM code</i>	<i>All races</i>	<i>White</i>	<i>Black</i>	<i>All other</i>	<i>Not stated</i>
Number of patients discharged in thousands					
All conditions . . . . .	31,098	20,816	3,717	1,036	5,528
Infectious and parasitic diseases . . . . . 001-139	759	477	121	25	136
Septicemia . . . . . 038	240	169	27	*7	38
Neoplasms . . . . . 140-239	2,001	1,416	194	74	318
Malignant neoplasms . . . . . 140-208,230-234	1,594	1,156	135	56	247
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	168	123	14	*	26
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	236	181	21	*7	27
Malignant neoplasm of breast . . . . . 174-175,198.81	158	112	15	*	26
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229,235-239	407	260	58	18	70
Endocrine, nutritional and metabolic diseases, and immunity disorders . . . . . 240-279	1,143	745	182	27	190
Diabetes mellitus . . . . . 250	429	247	94	12	77
Volume depletion . . . . . 276.5	329	240	37	*6	47
Diseases of the blood and blood-forming organs . . . . . 280-289	348	207	81	12	48
Mental disorders . . . . . 290-319	1,657	1,124	233	33	267
Psychoses . . . . . 290-299	902	617	125	17	144
Alcohol dependence syndrome . . . . . 303	228	146	38	*	40
Diseases of the nervous system and sense organs . . . . . 320-389	755	513	87	20	135
Diseases of the central nervous system . . . . . 320-336,340-349	331	215	46	*7	63
Diseases of the ear and mastoid process . . . . . 380-389	144	100	18	*6	21
Diseases of the circulatory system . . . . . 390-459	5,338	3,848	528	124	838
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	3,704	2,704	329	84	587
Acute myocardial infarction . . . . . 410	697	525	45	16	111
Coronary atherosclerosis . . . . . 414.0	384	299	19	*9	56
Other ischemic heart disease . . . . . 411-413,414.1-414.9	876	651	62	22	141
Cardiac dysrhythmias . . . . . 427	536	396	41	10	89
Congestive heart failure . . . . . 428.0	764	536	98	17	113
Cerebrovascular disease . . . . . 430-438	835	603	87	21	124
Diseases of the respiratory system . . . . . 460-519	3,052	2,066	402	87	497
Acute respiratory infections . . . . . 460-466	518	360	56	11	91
Chronic disease of tonsils and adenoids . . . . . 474	76	55	*6	*	13
Pneumonia . . . . . 480-486	1,088	749	129	34	177
Asthma . . . . . 493	490	269	120	23	78
Diseases of the digestive system . . . . . 520-579	3,256	2,299	322	83	552
Ulcers of the stomach and small intestine . . . . . 531-534	237	165	23	*9	39
Appendicitis . . . . . 540-543	232	158	17	11	45
Inguinal hernia . . . . . 550	135	97	13	*	21
Noninfectious enteritis and colitis . . . . . 555-558	351	254	35	*8	54
Cholelithiasis . . . . . 574	552	402	42	14	94
Diseases of the genitourinary system . . . . . 580-629	2,071	1,452	215	51	353
Calculus of kidney and ureter . . . . . 592	241	181	10	*6	44
Hyperplasia of prostate . . . . . 600	229	166	16	*	43
Complications of pregnancy, childbirth, and the puerperium <sup>1</sup> . . . . . 630-676	723	389	165	36	133
Abortions and ectopic and molar pregnancies . . . . . 630-639	180	93	44	*9	33
Diseases of the skin and subcutaneous tissue . . . . . 680-709	462	307	72	12	71
Cellulitis and abscess . . . . . 681-682	297	203	42	*7	44
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	1,600	1,161	114	31	294
Arthropathies and related disorders . . . . . 710-719	526	375	37	12	101
Intervertebral disc disorders . . . . . 722	391	289	20	*7	75
Congenital anomalies . . . . . 740-759	192	119	19	*9	45
Certain conditions originating in the perinatal period . . . . . 760-779	147	76	18	11	42
Symptoms, signs, and ill-defined conditions . . . . . 780-799	386	258	37	*8	82
Injury and poisoning . . . . . 800-999	2,768	1,834	324	85	525
Fractures, all sites . . . . . 800-829	1,034	726	86	28	195
Fracture of neck of femur . . . . . 820	300	232	10	*7	50
Intracranial injuries (excluding those with skull fracture) . . . . . 850-854	180	108	17	*6	49
Lacerations and open wounds . . . . . 870-904	193	102	48	*6	37
Supplementary classifications . . . . . V01-V82	4,438	2,525	603	309	1,002
Females with deliveries . . . . . V27	3,973	2,244	557	289	883

<sup>1</sup>First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 13. Rate of patients discharged from short-stay hospitals, by race and first-listed diagnosis: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM)]

First-listed diagnosis and ICD-9-CM code	All races	White	Black	All other	Not stated
Rate of patients discharged per 10,000 population					
All conditions . . . . .	1,241.1	992.9	1,204.7	1,029.8	...
Infectious and parasitic diseases . . . . . 001-139	30.3	22.8	39.3	24.5	...
Septicemia . . . . . 038	9.6	8.1	8.7	*6.9	...
Neoplasms . . . . . 140-239	79.9	67.5	62.8	73.2	...
Malignant neoplasms . . . . . 140-208,230-234	63.6	55.1	43.9	55.3	...
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	6.7	5.9	4.6	*	...
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	9.4	8.6	6.9	*7.1	...
Malignant neoplasm of breast . . . . . 174-175,198.81	6.3	5.4	4.8	*	...
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229,235-239	16.2	12.4	18.9	17.9	...
Endocrine, nutritional and metabolic diseases, and immunity disorders . . . . . 240-279	45.6	35.5	59.0	26.5	...
Diabetes mellitus . . . . . 250	17.1	11.8	30.4	12.0	...
Volume depletion . . . . . 276.5	13.1	11.4	11.9	*5.7	...
Diseases of the blood and blood-forming organs . . . . . 280-289	13.9	9.9	26.3	12.1	...
Mental disorders . . . . . 290-319	66.1	53.6	75.6	32.6	...
Psychoses . . . . . 290-299	36.0	29.4	40.4	16.7	...
Alcohol dependence syndrome . . . . . 303	9.1	7.0	12.3	*	...
Diseases of the nervous system and sense organs . . . . . 320-389	30.1	24.5	28.1	20.3	...
Diseases of the central nervous system . . . . . 320-336,340-349	13.2	10.3	15.0	*7.0	...
Diseases of the ear and mastoid process . . . . . 380-389	5.8	4.8	5.9	*5.8	...
Diseases of the circulatory system . . . . . 390-459	213.1	183.6	171.1	122.9	...
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	147.8	129.0	106.6	83.8	...
Acute myocardial infarction . . . . . 410	27.8	25.0	14.5	15.9	...
Coronary atherosclerosis . . . . . 414.0	15.3	14.3	6.2	*8.8	...
Other ischemic heart disease . . . . . 411-413,414.1-414.9	35.0	31.0	20.1	21.6	...
Cardiac dysrhythmias . . . . . 427	21.4	18.9	13.3	10.2	...
Congestive heart failure . . . . . 428.0	30.5	25.6	31.9	17.0	...
Cerebrovascular disease . . . . . 430-438	33.3	28.8	28.2	20.7	...
Diseases of the respiratory system . . . . . 460-519	121.8	98.5	130.3	86.4	...
Acute respiratory infections . . . . . 460-466	20.7	17.2	18.3	10.5	...
Chronic disease of tonsils and adenoids . . . . . 474	3.0	2.6	*1.8	*	...
Pneumonia . . . . . 480-486	43.4	35.7	41.6	34.1	...
Asthma . . . . . 493	19.6	12.8	38.8	22.8	...
Diseases of the digestive system . . . . . 520-579	129.9	109.6	104.5	82.6	...
Ulcers of the stomach and small intestine . . . . . 531-534	9.5	7.9	7.6	*9.1	...
Appendicitis . . . . . 540-543	9.2	7.5	5.5	10.9	...
Inguinal hernia . . . . . 550	5.4	4.6	4.1	*	...
Noninfectious enteritis and colitis . . . . . 555-558	14.0	12.1	11.4	*7.9	...
Cholelithiasis . . . . . 574	22.0	19.2	13.6	13.5	...
Diseases of the genitourinary system . . . . . 580-629	82.7	69.3	69.8	50.8	...
Calculus of kidney and ureter . . . . . 592	9.6	8.6	3.3	*5.7	...
Hyperplasia of prostate . . . . . 600	9.2	7.9	5.2	*	...
Complications of pregnancy, childbirth, and the puerperium <sup>1</sup> . . . . . 630-676	28.8	18.5	53.4	35.6	...
Abortions and ectopic and molar pregnancies . . . . . 630-639	7.2	4.4	14.4	*9.0	...
Diseases of the skin and subcutaneous tissue . . . . . 680-709	18.4	14.6	23.2	12.3	...
Cellulitis and abscess . . . . . 681-682	11.9	9.7	13.6	*7.3	...
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	63.9	55.4	36.8	31.2	...
Arthropathies and related disorders . . . . . 710-719	21.0	17.9	12.1	12.4	...
Intervertebral disc disorders . . . . . 722	15.6	13.8	6.5	*7.3	...
Congenital anomalies . . . . . 740-759	7.7	5.7	6.1	*8.7	...
Certain conditions originating in the perinatal period . . . . . 760-779	5.9	3.6	5.8	10.7	...
Symptoms, signs, and ill-defined conditions . . . . . 780-799	15.4	12.3	12.1	*8.4	...
Injury and poisoning . . . . . 800-999	110.5	87.5	105.0	84.2	...
Fractures, all sites . . . . . 800-829	41.3	34.6	28.0	27.5	...
Fracture of neck of femur . . . . . 820	12.0	11.1	3.4	*6.9	...
Intracranial injuries (excluding those with skull fracture) . . . . . 850-854	7.2	5.1	5.5	*5.9	...
Lacerations and open wounds . . . . . 870-904	7.7	4.9	15.6	*6.2	...
Supplementary classifications . . . . . V01-V82	177.1	120.4	195.4	306.8	...
Females with deliveries . . . . . V27	158.6	107.0	180.7	286.9	...

<sup>1</sup>First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

NOTES: see "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey. Rates for race categories may be underestimated because race was not reported for all discharged patients.



**Table 14. Average length of stay for patients discharged from short-stay hospitals, by race and first-listed diagnosis: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)]

<i>First-listed diagnosis and ICD-9-CM code</i>	<i>All races</i>	<i>White</i>	<i>Black</i>	<i>All other</i>	<i>Not stated</i>
Average length of stay in days					
All conditions . . . . .	6.4	6.5	6.8	5.5	6.0
Infectious and parasitic diseases . . . . . 001-139	8.5	8.0	10.9	8.0	8.1
Septicemia . . . . . 038	11.6	11.4	15.2	*10.1	10.4
Neoplasms . . . . . 140-239	8.2	8.3	8.9	8.1	7.4
Malignant neoplasms . . . . . 140-208,230-234	9.2	9.1	10.7	9.3	8.4
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	14.6	15.3	17.0	*	10.5
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	8.6	8.3	11.9	*5.8	8.8
Malignant neoplasm of breast . . . . . 174-175,198.81	4.4	4.3	5.7	*	4.1
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229,235-239	4.5	4.5	4.8	4.3	4.2
Endocrine, nutritional and metabolic diseases, and immunity disorders . . . . . 240-279	7.1	7.0	7.6	7.5	7.0
Diabetes mellitus . . . . . 250	7.1	6.8	7.6	7.4	7.5
Volume depletion . . . . . 276.5	7.5	7.6	7.4	*5.8	7.7
Diseases of the blood and blood-forming organs . . . . . 280-289	6.2	6.3	6.4	4.0	5.8
Mental disorders . . . . . 290-319	11.4	11.4	11.5	11.4	11.7
Psychoses . . . . . 290-299	13.5	13.3	14.2	13.2	13.5
Alcohol dependence syndrome . . . . . 303	9.5	9.0	9.2	*	11.7
Diseases of the nervous system and sense organs . . . . . 320-389	5.7	5.4	6.8	5.6	5.8
Diseases of the central nervous system . . . . . 320-336,340-349	8.8	8.8	9.2	*9.9	8.5
Diseases of the ear and mastoid process . . . . . 380-389	2.8	2.7	2.8	*4.1	3.4
Diseases of the circulatory system . . . . . 390-459	7.3	7.3	8.3	6.7	6.9
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	6.8	6.8	7.5	6.1	6.7
Acute myocardial infarction . . . . . 410	8.1	8.0	8.7	8.0	8.6
Coronary atherosclerosis . . . . . 414.0	7.1	7.5	7.0	*5.6	5.7
Other ischemic heart disease . . . . . 411-413,414.1-414.9	5.0	5.1	5.0	3.9	5.0
Cardiac dysrhythmias . . . . . 427	5.3	5.2	6.1	4.5	5.2
Congestive heart failure . . . . . 428.0	7.9	8.0	8.2	7.1	7.5
Cerebrovascular disease . . . . . 430-438	9.3	9.2	12.0	11.0	8.0
Diseases of the respiratory system . . . . . 460-519	6.8	7.0	6.1	6.2	6.2
Acute respiratory infections . . . . . 460-466	4.8	5.0	3.9	4.8	4.2
Chronic disease of tonsils and adenoids . . . . . 474	1.2	1.2	*1.5	*	1.2
Pneumonia . . . . . 480-486	8.2	8.5	7.7	7.2	7.5
Asthma . . . . . 493	4.5	4.8	3.9	4.0	4.8
Diseases of the digestive system . . . . . 520-579	5.9	6.0	6.4	5.0	5.5
Ulcers of the stomach and small intestine . . . . . 531-534	6.9	6.8	6.7	*7.7	7.3
Appendicitis . . . . . 540-543	4.2	4.2	5.1	4.2	4.0
Inguinal hernia . . . . . 550	2.4	2.4	2.7	*	2.2
Noninfectious enteritis and colitis . . . . . 555-558	5.6	5.8	5.4	*2.9	4.7
Cholelithiasis . . . . . 574	5.0	5.1	5.7	4.2	4.1
Diseases of the genitourinary system . . . . . 580-629	4.8	4.7	5.7	4.7	4.7
Calculus of kidney and ureter . . . . . 592	2.7	2.7	2.7	*2.9	2.8
Hyperplasia of prostate . . . . . 600	5.3	5.2	5.7	*	5.6
Complications of pregnancy, childbirth, and the puerperium <sup>1</sup> . . . . . 630-676	2.9	2.8	3.0	3.6	2.9
Abortions and ectopic and molar pregnancies . . . . . 630-639	2.4	2.8	2.1	*2.1	1.9
Diseases of the skin and subcutaneous tissue . . . . . 680-709	8.4	8.1	8.9	11.6	8.6
Cellulitis and abscess . . . . . 681-682	7.1	7.2	7.2	*5.3	7.0
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	6.4	6.4	6.9	7.6	5.9
Arthropathies and related disorders . . . . . 710-719	7.4	7.7	6.9	10.3	6.2
Intervertebral disc disorders . . . . . 722	5.0	5.0	5.3	*4.9	5.0
Congenital anomalies . . . . . 740-759	6.2	5.4	8.2	*6.8	7.4
Certain conditions originating in the perinatal period . . . . . 760-779	10.7	7.2	19.2	15.3	12.4
Symptoms, signs, and ill-defined conditions . . . . . 780-799	3.0	2.9	2.8	*2.0	3.8
Injury and poisoning . . . . . 800-999	6.9	7.2	7.3	6.3	5.9
Fractures, all sites . . . . . 800-829	8.4	8.8	8.1	7.0	7.4
Fracture of neck of femur . . . . . 820	12.3	12.7	14.5	*11.2	10.4
Intracranial injuries (excluding those with skull fracture) . . . . . 850-854	5.8	6.0	7.0	*5.3	5.1
Lacerations and open wounds . . . . . 870-904	4.9	5.8	4.1	*3.5	3.5
Supplementary classifications . . . . . V01-V82	3.3	3.3	3.3	2.9	3.4
Females with deliveries . . . . . V27	2.8	2.7	3.0	2.7	2.8

<sup>1</sup>First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 15. Number of patients discharged from short-stay hospitals, by geographic region and first-listed diagnosis: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

First-listed diagnosis and ICD-9-CM code	United States				
	United States	Northeast	Midwest	South	West
Number of patients discharged in thousands					
All conditions . . . . .	31,098	7,153	7,315	11,290	5,340
Infectious and parasitic diseases . . . . . 001-139	759	195	147	285	132
Septicemia . . . . . 038	240	56	48	95	41
Neoplasms . . . . . 140-239	2,001	543	410	694	354
Malignant neoplasms . . . . . 140-208,230-234	1,594	432	332	554	276
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	168	56	35	51	26
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	236	57	49	89	41
Malignant neoplasm of breast . . . . . 174-175,198.81	158	38	38	56	26
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229,235-239	407	111	78	139	78
Endocrine, nutritional and metabolic diseases, and immunity disorders . . . . . 240-279	1,143	254	289	450	150
Diabetes mellitus . . . . . 250	429	89	109	174	58
Volume depletion . . . . . 276.5	329	81	84	125	40
Diseases of the blood and blood-forming organs . . . . . 280-289	348	87	79	126	57
Mental disorders . . . . . 290-319	1,657	476	445	472	265
Psychoses . . . . . 290-299	902	262	239	255	147
Alcohol dependence syndrome . . . . . 303	228	60	72	65	31
Diseases of the nervous system and sense organs . . . . . 320-389	755	226	157	254	118
Diseases of the central nervous system . . . . . 320-336,340-349	331	83	78	113	56
Diseases of the ear and mastoid process . . . . . 380-389	144	46	31	49	20
Diseases of the circulatory system . . . . . 390-459	5,338	1,247	1,317	2,001	773
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	3,704	891	885	1,391	538
Acute myocardial infarction . . . . . 410	697	179	167	250	102
Coronary atherosclerosis . . . . . 414.0	384	95	110	122	56
Other ischemic heart disease . . . . . 411-413,414.1-414.9	876	214	190	332	140
Cardiac dysrhythmias . . . . . 427	536	127	127	205	76
Congestive heart failure . . . . . 428.0	764	179	181	316	89
Cerebrovascular disease . . . . . 430-438	835	175	229	310	121
Diseases of the respiratory system . . . . . 460-519	3,052	664	759	1,161	467
Acute respiratory infections . . . . . 460-466	518	97	157	199	65
Chronic disease of tonsils and adenoids . . . . . 474	76	39	10	15	12
Pneumonia . . . . . 480-486	1,088	217	282	429	161
Asthma . . . . . 493	490	124	124	155	87
Diseases of the digestive system . . . . . 520-579	3,256	750	778	1,225	504
Ulcers of the stomach and small intestine . . . . . 531-534	237	44	58	94	41
Appendicitis . . . . . 540-543	232	41	54	83	54
Inguinal hernia . . . . . 550	135	51	25	46	13
Noninfectious enteritis and colitis . . . . . 555-558	351	78	86	143	43
Cholelithiasis . . . . . 574	552	124	133	202	93
Diseases of the genitourinary system . . . . . 580-629	2,071	446	483	827	314
Calculus of kidney and ureter . . . . . 592	241	53	71	95	23
Hyperplasia of prostate . . . . . 600	229	54	54	86	36
Complications of pregnancy, childbirth, and the puerperium <sup>1</sup> . . . . . 630-676	723	163	147	271	142
Abortions and ectopic and molar pregnancies . . . . . 630-639	180	57	26	67	29
Diseases of the skin and subcutaneous tissue . . . . . 680-709	462	118	103	180	61
Cellulitis and abscess . . . . . 681-682	297	67	71	119	40
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	1,600	363	376	591	271
Arthropathies and related disorders . . . . . 710-719	526	122	125	179	100
Intervertebral disc disorders . . . . . 722	391	72	91	163	67
Congenital anomalies . . . . . 740-759	192	76	40	40	36
Certain conditions originating in the perinatal period . . . . . 760-779	147	29	34	41	42
Symptoms, signs, and ill-defined conditions . . . . . 780-799	386	73	83	165	65
Injury and poisoning . . . . . 800-999	2,768	631	666	984	487
Fractures, all sites . . . . . 800-829	1,034	234	243	380	176
Fracture of neck of femur . . . . . 820	300	62	70	116	51
Intracranial injuries (excluding those with skull fracture) . . . . . 850-854	180	39	60	50	31
Lacerations and open wounds . . . . . 870-904	193	42	44	70	37
Supplementary classifications . . . . . V01-V82	4,438	812	1,004	1,521	1,102
Females with deliveries . . . . . V27	3,973	670	875	1,418	1,010

<sup>1</sup>First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 16. Rate of patients discharged from short-stay hospitals, by geographic region and first-listed diagnosis: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

First-listed diagnosis and ICD-9-CM code	United States	Northeast	Midwest	South	West
Rate of patients discharged per 10,000 population					
All conditions . . . . .	1,241.1	1,406.1	1,217.4	1,311.7	997.5
Infectious and parasitic diseases . . . . . 001-139	30.3	38.4	24.5	33.1	24.6
Septicemia . . . . . 038	9.6	11.0	8.1	11.1	7.6
Neoplasms . . . . . 140-239	79.9	106.7	68.2	80.6	66.1
Malignant neoplasms . . . . . 140-208,230-234	63.6	84.9	55.2	64.4	51.5
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	6.7	10.9	5.9	5.9	4.9
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	9.4	11.2	8.2	10.3	7.7
Malignant neoplasm of breast . . . . . 174-175,198.81	6.3	7.4	6.3	6.5	4.8
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229,235-239	16.2	21.8	13.0	16.2	14.6
Endocrine, nutritional and metabolic diseases, and immunity disorders . . . . . 240-279	45.6	49.9	48.0	52.3	28.0
Diabetes mellitus . . . . . 250	17.1	17.4	18.1	20.2	10.9
Volume depletion . . . . . 276.5	13.1	15.9	13.9	14.5	7.5
Diseases of the blood and blood-forming organs . . . . . 280-289	13.9	17.1	13.1	14.6	10.6
Mental disorders . . . . . 290-319	66.1	93.6	74.0	54.9	49.4
Psychoses . . . . . 290-299	36.0	51.4	39.8	29.6	27.5
Alcohol dependence syndrome . . . . . 303	9.1	11.9	11.9	7.6	5.8
Diseases of the nervous system and sense organs . . . . . 320-389	30.1	44.4	26.1	29.6	22.1
Diseases of the central nervous system . . . . . 320-336,340-349	13.2	16.3	13.0	13.2	10.5
Diseases of the ear and mastoid process . . . . . 380-389	5.8	9.0	5.1	5.6	3.6
Diseases of the circulatory system . . . . . 390-459	213.1	245.2	219.1	232.5	144.5
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	147.8	175.1	147.3	161.6	100.5
Acute myocardial infarction . . . . . 410	27.8	35.1	27.7	29.0	19.1
Coronary atherosclerosis . . . . . 414.0	15.3	18.7	18.3	14.2	10.5
Other ischemic heart disease . . . . . 411-413,414.1-414.9	35.0	42.1	31.6	38.6	26.1
Cardiac dysrhythmias . . . . . 427	21.4	25.0	21.2	23.8	14.3
Congestive heart failure . . . . . 428.0	30.5	35.2	30.1	36.7	16.5
Cerebrovascular disease . . . . . 430-438	33.3	34.4	38.1	36.0	22.6
Diseases of the respiratory system . . . . . 460-519	121.8	130.5	126.4	134.9	87.3
Acute respiratory infections . . . . . 460-466	20.7	19.1	26.1	23.1	12.2
Chronic disease of tonsils and adenoids . . . . . 474	3.0	7.6	1.7	1.8	2.2
Pneumonia . . . . . 480-486	43.4	42.6	46.9	49.8	30.0
Asthma . . . . . 493	19.6	24.4	20.6	18.0	16.3
Diseases of the digestive system . . . . . 520-579	129.9	147.4	129.4	142.3	94.1
Ulcers of the stomach and small intestine . . . . . 531-534	9.5	8.6	9.7	10.9	7.7
Appendicitis . . . . . 540-543	9.2	8.0	9.0	9.6	10.1
Inguinal hernia . . . . . 550	5.4	10.1	4.2	5.3	2.4
Noninfectious enteritis and colitis . . . . . 555-558	14.0	15.4	14.3	16.6	8.1
Cholelithiasis . . . . . 574	22.0	24.4	22.1	23.5	17.4
Diseases of the genitourinary system . . . . . 580-629	82.7	87.7	80.4	96.1	58.7
Calculus of kidney and ureter . . . . . 592	9.6	10.4	11.8	11.0	4.2
Hyperplasia of prostate . . . . . 600	9.2	10.5	9.1	10.0	6.6
Complications of pregnancy, childbirth, and the puerperium <sup>1</sup> . . . . . 630-676	28.8	32.0	24.5	31.5	26.5
Abortions and ectopic and molar pregnancies . . . . . 630-639	7.2	11.2	4.3	7.8	5.5
Diseases of the skin and subcutaneous tissue . . . . . 680-709	18.4	23.1	17.2	20.9	11.4
Cellulitis and abscess . . . . . 681-682	11.9	13.2	11.9	13.8	7.5
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	63.9	71.3	62.5	68.7	50.6
Arthropathies and related disorders . . . . . 710-719	21.0	23.9	20.7	20.8	18.8
Intervertebral disc disorders . . . . . 722	15.6	14.1	15.1	18.9	12.4
Congenital anomalies . . . . . 740-759	7.7	15.0	6.6	4.7	6.7
Certain conditions originating in the perinatal period . . . . . 760-779	5.9	5.8	5.7	4.8	7.9
Symptoms, signs, and ill-defined conditions . . . . . 780-799	15.4	14.4	13.8	19.1	12.2
Injury and poisoning . . . . . 800-999	110.5	124.0	110.8	114.3	91.0
Fractures, all sites . . . . . 800-829	41.3	46.1	40.5	44.2	32.9
Fracture of neck of femur . . . . . 820	12.0	12.2	11.6	13.5	9.6
Intracranial injuries (excluding those with skull fracture) . . . . . 850-854	7.2	7.6	9.9	5.8	5.8
Lacerations and open wounds . . . . . 870-904	7.7	8.3	7.3	8.2	6.9
Supplementary classifications . . . . . V01-V82	177.1	159.6	167.0	176.7	205.8
Females with deliveries . . . . . V27	158.6	131.7	145.7	164.8	188.6

<sup>1</sup>First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 17. Average length of stay for patients discharged from short-stay hospitals, by geographic region and first-listed diagnosis: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

First-listed diagnosis and ICD-9-CM code	United States	North-east	Midwest	South	West
Average length of stay in days					
All conditions . . . . .	6.4	7.3	6.5	6.2	5.4
Infectious and parasitic diseases . . . . . 001-139	8.5	10.3	8.3	7.8	7.5
Septicemia . . . . . 038	11.6	14.1	11.3	11.8	8.0
Neoplasms . . . . . 140-239	8.2	9.0	9.0	7.8	6.9
Malignant neoplasms. . . . . 140-208,230-234	9.2	10.2	10.0	8.5	7.7
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	14.6	12.4	24.9	12.0	10.3
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	8.6	11.0	8.5	7.4	8.1
Malignant neoplasm of breast . . . . . 174-175,198.81	4.4	5.0	3.9	4.8	3.5
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229,235-239	4.5	4.0	4.8	4.9	3.9
Endocrine, nutritional and metabolic diseases, and immunity disorders . . . . . 240-279	7.1	9.4	6.1	7.0	5.4
Diabetes mellitus . . . . . 250	7.1	9.1	6.4	6.5	7.0
Volume depletion . . . . . 276.5	7.5	11.9	6.2	6.6	4.4
Diseases of the blood and blood-forming organs . . . . . 280-289	6.2	6.3	6.3	6.7	4.9
Mental disorders . . . . . 290-319	11.4	12.0	12.2	11.5	9.0
Psychoses . . . . . 290-299	13.5	15.1	14.2	13.2	9.8
Alcohol dependence syndrome . . . . . 303	9.5	7.0	11.3	9.9	9.4
Diseases of the nervous system and sense organs . . . . . 320-389	5.7	5.4	6.0	5.6	6.0
Diseases of the central nervous system . . . . . 320-336,340-349	8.8	9.9	8.3	8.3	9.2
Diseases of the ear and mastoid process . . . . . 380-389	2.8	3.0	2.5	3.0	2.5
Diseases of the circulatory system . . . . . 390-459	7.3	8.4	7.0	7.2	6.2
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	6.8	7.6	6.5	6.8	6.0
Acute myocardial infarction. . . . . 410	8.1	9.1	8.2	7.5	8.0
Coronary atherosclerosis . . . . . 414.0	7.1	5.9	5.4	10.1	6.0
Other ischemic heart disease . . . . . 411-413,414.1-414.9	5.0	5.6	4.8	5.2	4.3
Cardiac dysrhythmias . . . . . 427	5.3	6.1	5.1	5.1	4.5
Congestive heart failure . . . . . 428.0	7.9	10.0	7.6	7.3	6.7
Cerebrovascular disease . . . . . 430-438	9.3	12.8	9.0	8.3	7.5
Diseases of the respiratory system. . . . . 460-519	6.8	7.7	6.2	6.8	6.2
Acute respiratory infections . . . . . 460-466	4.8	5.9	4.4	4.4	5.0
Chronic disease of tonsils and adenoids. . . . . 474	1.2	1.2	1.3	1.3	1.2
Pneumonia . . . . . 480-486	8.2	10.3	7.6	8.1	6.8
Asthma . . . . . 493	4.5	4.4	4.1	5.1	4.3
Diseases of the digestive system. . . . . 520-579	5.9	6.5	6.0	5.7	5.5
Ulcers of the stomach and small intestine . . . . . 531-534	6.9	7.9	7.4	6.5	6.3
Appendicitis . . . . . 540-543	4.2	4.9	4.2	4.3	3.7
Inguinal hernia. . . . . 550	2.4	2.2	3.0	2.2	2.5
Noninfectious enteritis and colitis . . . . . 555-558	5.6	6.9	5.0	5.4	4.8
Cholelithiasis . . . . . 574	5.0	5.7	5.6	4.7	3.6
Diseases of the genitourinary system . . . . . 580-629	4.8	5.3	4.5	4.9	4.3
Calculus of kidney and ureter . . . . . 592	2.7	2.9	2.5	2.9	2.5
Hyperplasia of prostate . . . . . 600	5.3	7.0	4.2	4.8	5.6
Complications of pregnancy, childbirth, and the puerperium <sup>1</sup> . . . . . 630-676	2.9	2.8	3.3	3.0	2.5
Abortions and ectopic and molar pregnancies . . . . . 630-639	2.4	1.9	5.4	1.9	1.9
Diseases of the skin and subcutaneous tissue . . . . . 680-709	8.4	9.2	7.7	8.4	8.1
Cellulitis and abscess . . . . . 681-682	7.1	8.3	6.8	6.9	6.4
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	6.4	6.6	6.9	6.2	5.9
Arthropathies and related disorders. . . . . 710-719	7.4	7.2	7.8	7.7	6.6
Intervertebral disc disorders . . . . . 722	5.0	5.2	5.0	4.8	5.2
Congenital anomalies . . . . . 740-759	6.2	6.8	6.2	5.2	5.9
Certain conditions originating in the perinatal period. . . . . 760-779	10.7	9.3	12.9	8.9	11.7
Symptoms, signs, and ill-defined conditions . . . . . 780-799	3.0	3.3	2.7	3.0	3.3
Injury and poisoning. . . . . 800-999	6.9	7.8	6.9	6.8	6.0
Fractures, all sites. . . . . 800-829	8.4	10.5	8.2	8.0	6.9
Fracture of neck of femur. . . . . 820	12.3	16.2	12.0	11.7	9.3
Intracranial injuries (excluding those with skull fracture) . . . . . 850-854	5.8	5.0	6.1	6.5	5.1
Lacerations and open wounds . . . . . 870-904	4.9	3.5	4.1	4.0	8.9
Supplementary classifications . . . . . V01-V82	3.3	3.7	3.7	3.1	2.8
Females with deliveries . . . . . V27	2.8	3.1	2.8	2.9	2.3

<sup>1</sup>First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge survey.

**Table 18. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by age and diagnosis: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

<i>All-listed diagnoses and ICD-9-CM code</i>	<i>All ages</i>	<i>Under 15 years</i>	<i>15-44 years</i>	<i>45-64 years</i>	<i>65 years and over</i>
Number of all-listed diagnoses in thousands					
All conditions . . . . .	106,908	5,789	31,592	21,421	48,106
Infectious and parasitic diseases . . . . . 001-139	2,963	493	864	456	1,150
Septicemia . . . . . 038	517	42	69	96	310
Neoplasms . . . . . 140-239	4,492	102	696	1,349	2,344
Malignant neoplasms . . . . . 140-208,230-234	3,605	82	347	1,086	2,090
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	249	*	11	59	178
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	520	*	21	194	302
Malignant neoplasm of breast . . . . . 174-175,198.81	222	*	34	80	108
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229,235-239	887	20	349	263	254
Endocrine, nutritional and metabolic diseases, and immunity disorders . . . . . 240-279	9,811	397	1,474	2,493	5,447
Diabetes mellitus . . . . . 250	3,305	30	425	971	1,879
Volume depletion . . . . . 276.5	1,443	223	256	191	773
Diseases of the blood and blood-forming organs . . . . . 280-289	3,317	166	823	641	1,667
Mental disorders . . . . . 290-319	5,285	140	2,588	1,056	1,501
Psychoses . . . . . 290-299	1,846	33	690	332	792
Alcohol dependence syndrome . . . . . 303	662	*	385	195	81
Diseases of the nervous system and sense organs . . . . . 320-389	3,377	523	651	604	1,598
Diseases of the central nervous system . . . . . 320-336,340-349	1,681	133	360	287	901
Diseases of the ear and mastoid process . . . . . 380-389	557	325	74	55	103
Diseases of the circulatory system . . . . . 390-459	21,359	121	1,278	5,172	14,787
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	13,568	79	650	3,195	9,643
Acute myocardial infarction . . . . . 410	809	*	48	253	508
Coronary atherosclerosis . . . . . 414.0	2,258	*	72	627	1,555
Other ischemic heart disease . . . . . 411-413,414.1-414.9	2,647	*	111	807	1,725
Cardiac dysrhythmias . . . . . 427	2,818	27	147	547	2,097
Congestive heart failure . . . . . 428.0	2,142	14	51	319	1,758
Cerebrovascular disease . . . . . 430-438	1,744	13	57	302	1,371
Diseases of the respiratory system . . . . . 460-519	8,296	1,158	1,187	1,640	4,311
Acute respiratory infections . . . . . 460-466	970	343	165	144	318
Chronic disease of tonsils and adenoids . . . . . 474	108	72	31	*	*
Pneumonia . . . . . 480-486	1,662	275	196	247	944
Asthma . . . . . 493	923	254	247	182	240
Diseases of the digestive system . . . . . 520-579	7,938	425	1,871	2,000	3,642
Ulcers of the stomach and small intestine . . . . . 531-534	534	*	89	148	294
Appendicitis . . . . . 540-543	272	62	162	30	17
Inguinal hernia . . . . . 550	200	29	34	55	82
Noninfectious enteritis and colitis . . . . . 555-558	717	153	196	131	236
Cholelithiasis . . . . . 574	880	*	258	259	359
Diseases of the genitourinary system . . . . . 580-629	6,976	156	2,312	1,458	3,050
Calculus of kidney and ureter . . . . . 592	332	*	150	112	70
Hyperplasia of prostate . . . . . 600	404	-	*	74	330
Complications of pregnancy, childbirth, and the puerperium <sup>1</sup> . . . . . 630-676	7,729	27	7,695	*6	...
Abortions and ectopic and molar pregnancies . . . . . 630-639	198	*	197	*	...
Diseases of the skin and subcutaneous tissue . . . . . 680-709	1,312	114	309	277	611
Cellulitis and abscess . . . . . 681-682	507	41	142	119	205
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	4,195	81	996	1,028	2,089
Arthropathies and related disorders . . . . . 710-719	1,737	25	274	366	1,073
Intervertebral disc disorders . . . . . 722	525	*	247	181	96
Congenital anomalies . . . . . 740-759	580	314	125	76	65
Certain conditions originating in the perinatal period . . . . . 760-779	386	380	*	*	*
Symptoms, signs, and ill-defined conditions . . . . . 780-799	5,282	477	1,306	1,260	2,239
Injury and poisoning . . . . . 800-999	6,060	498	2,373	1,138	2,051
Fractures, all sites . . . . . 800-829	1,576	134	551	245	647
Fracture of neck of femur . . . . . 820	332	*	14	30	283
Intracranial injuries (excluding those with skull fracture) . . . . . 850-854	254	39	130	31	54
Lacerations and open wounds . . . . . 870-904	555	49	358	73	75
Supplementary classifications . . . . . V01-V82	7,551	196	5,039	765	1,550
Females with deliveries . . . . . V27	3,973	14	3,957	*	...

<sup>1</sup>First-listed diagnosis for females with deliveries coded V27, shown under "Supplementary classifications."

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 19. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by sex and diagnosis: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

<i>All-listed diagnoses and ICD-9-CM code</i>	<i>Both sexes</i>	<i>Male</i>	<i>Female</i>
Number of all-listed diagnoses in thousands			
All conditions . . . . .	106,908	43,471	63,436
Infectious and parasitic diseases . . . . . 001-139	2,963	1,315	1,648
Septicemia . . . . . 038	517	238	279
Neoplasms . . . . . 140-239	4,492	2,031	2,461
Malignant neoplasms . . . . . 140-208,230-234	3,605	1,825	1,780
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	249	120	129
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	520	310	210
Malignant neoplasm of breast . . . . . 174-175,198.81	222	*	220
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229,235-239	887	206	681
Endocrine, nutritional and metabolic diseases, and immunity disorders . . . . . 240-279	9,811	3,980	5,830
Diabetes mellitus . . . . . 250	3,305	1,418	1,887
Volume depletion . . . . . 276.5	1,443	588	855
Diseases of the blood and blood-forming organs . . . . . 280-289	3,317	1,375	1,942
Mental disorders . . . . . 290-319	5,285	2,628	2,657
Psychoses . . . . . 290-299	1,846	835	1,011
Alcohol dependence syndrome . . . . . 303	662	497	165
Diseases of the nervous system and sense organs . . . . . 320-389	3,377	1,645	1,732
Diseases of the central nervous system . . . . . 320-336,340-349	1,681	806	875
Diseases of the ear and mastoid process . . . . . 380-389	557	301	256
Diseases of the circulatory system . . . . . 390-459	21,359	10,499	10,860
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	13,568	6,984	6,583
Acute myocardial infarction . . . . . 410	809	480	329
Coronary atherosclerosis . . . . . 414.0	2,258	1,281	977
Other ischemic heart disease . . . . . 411-413,414.1-414.9	2,647	1,455	1,192
Cardiac dysrhythmias . . . . . 427	2,818	1,398	1,420
Congestive heart failure . . . . . 428.0	2,142	1,006	1,136
Cerebrovascular disease . . . . . 430-438	1,744	804	940
Diseases of the respiratory system . . . . . 460-519	8,296	4,173	4,123
Acute respiratory infections . . . . . 460-466	970	466	504
Chronic disease of tonsils and adenoids . . . . . 474	108	48	59
Pneumonia . . . . . 480-486	1,662	835	827
Asthma . . . . . 493	923	381	542
Diseases of the digestive system . . . . . 520-579	7,938	3,501	4,438
Ulcers of the stomach and small intestine . . . . . 531-534	534	272	262
Appendicitis . . . . . 540-543	272	145	126
Inguinal hernia . . . . . 550	200	179	20
Noninfectious enteritis and colitis . . . . . 555-558	717	291	425
Cholelithiasis . . . . . 574	880	275	606
Diseases of the genitourinary system . . . . . 580-629	6,976	2,461	4,515
Calculus of kidney and ureter . . . . . 592	332	208	124
Hyperplasia of prostate . . . . . 600	404	404	...
Complications of pregnancy, childbirth, and the puerperium <sup>1</sup> . . . . . 630-676	7,729	...	7,729
Abortions and ectopic and molar pregnancies . . . . . 630-639	198	...	198
Diseases of the skin and subcutaneous tissue . . . . . 680-709	1,312	627	685
Cellulitis and abscess . . . . . 681-682	507	268	239
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	4,195	1,651	2,544
Arthropathies and related disorders . . . . . 710-719	1,737	628	1,109
Intervertebral disc disorders . . . . . 722	525	288	237
Congenital anomalies . . . . . 740-759	580	302	278
Certain conditions originating in the perinatal period . . . . . 760-779	386	212	174
Symptoms, signs, and ill-defined conditions . . . . . 780-799	5,282	2,444	2,837
Injury and poisoning . . . . . 800-999	6,060	3,223	2,837
Fractures, all sites . . . . . 800-829	1,576	776	801
Fracture of neck of femur . . . . . 820	332	95	237
Intracranial injuries (excluding those with skull fracture) . . . . . 850-854	254	148	106
Lacerations and open wounds . . . . . 870-904	555	379	176
Supplementary classifications . . . . . V01-V82	7,551	1,403	6,147
Females with deliveries . . . . . V27	3,973	...	3,973

<sup>1</sup>First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications."NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 20. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by race and diagnosis: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

All-listed diagnoses and ICD-9-CM code	All races	White	Black	All other	Not stated
Number of all-listed diagnoses in thousands					
All conditions . . . . .	106,908	73,781	12,700	3,282	17,144
Infectious and parasitic diseases . . . . . 001-139	2,963	1,920	470	101	472
Septicemia . . . . . 038	517	355	66	16	79
Neoplasms . . . . . 140-239	4,492	3,246	422	135	689
Malignant neoplasms . . . . . 140-208,230-234	3,605	2,647	303	105	549
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	249	184	21	*6	38
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	520	394	45	15	65
Malignant neoplasm of breast . . . . . 174-175,198.81	222	163	18	*	37
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229,235-239	887	598	119	30	139
Endocrine, nutritional and metabolic diseases, and immunity disorders . . . . . 240-279	9,811	6,863	1,294	246	1,407
Diabetes mellitus . . . . . 250	3,305	2,198	501	100	506
Volume depletion . . . . . 276.5	1,443	1,030	179	30	203
Diseases of the blood and blood-forming organs . . . . . 280-289	3,317	2,139	556	116	505
Mental disorders . . . . . 290-319	5,285	3,641	753	114	777
Psychoses . . . . . 290-299	1,846	1,306	233	38	270
Alcohol dependence syndrome . . . . . 303	662	403	142	16	101
Diseases of the nervous system and sense organs . . . . . 320-389	3,377	2,365	393	88	531
Diseases of the central nervous system . . . . . 320-336,340-349	1,681	1,193	192	40	257
Diseases of the ear and mastoid process . . . . . 380-389	557	366	75	18	98
Diseases of the circulatory system . . . . . 390-459	21,359	15,804	2,095	463	2,996
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	13,568	10,247	1,125	281	1,915
Acute myocardial infarction . . . . . 410	809	610	55	19	126
Coronary atherosclerosis . . . . . 414.0	2,258	1,781	132	41	303
Other ischemic heart disease . . . . . 411-413,414.1-414.9	2,647	2,038	171	54	383
Cardiac dysrhythmias . . . . . 427	2,818	2,121	231	58	408
Congestive heart failure . . . . . 428.0	2,142	1,589	211	41	301
Cerebrovascular disease . . . . . 430-438	1,744	1,277	187	39	241
Diseases of the respiratory system . . . . . 460-519	8,296	5,899	918	212	1,268
Acute respiratory infections . . . . . 460-466	970	673	107	24	166
Chronic disease of tonsils and adenoids . . . . . 474	108	77	*9	*	18
Pneumonia . . . . . 480-486	1,662	1,152	200	49	260
Asthma . . . . . 493	923	549	189	38	148
Diseases of the digestive system . . . . . 520-579	7,938	5,696	824	192	1,227
Ulcers of the stomach and small intestine . . . . . 531-534	534	378	57	17	81
Appendicitis . . . . . 540-543	272	187	20	12	52
Inguinal hernia . . . . . 550	200	143	19	*6	32
Noninfectious enteritis and colitis . . . . . 555-558	717	518	74	16	108
Cholelithiasis . . . . . 574	880	643	73	21	143
Diseases of the genitourinary system . . . . . 580-629	6,976	4,883	839	182	1,072
Calculus of kidney and ureter . . . . . 592	332	251	17	*8	56
Hyperplasia of prostate . . . . . 600	404	302	26	*5	70
Complications of pregnancy, childbirth, and the puerperium <sup>1</sup> . . . . . 630-676	7,729	4,293	1,283	522	1,630
Abortions and ectopic and molar pregnancies . . . . . 630-639	198	103	51	9	35
Diseases of the skin and subcutaneous tissue . . . . . 680-709	1,312	898	185	32	197
Cellulitis and abscess . . . . . 681-682	507	354	66	12	75
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	4,195	3,115	317	80	683
Arthropathies and related disorders . . . . . 710-719	1,737	1,276	146	36	278
Intervertebral disc disorders . . . . . 722	525	391	26	10	98
Congenital anomalies . . . . . 740-759	580	370	62	26	122
Certain conditions originating in the perinatal period . . . . . 760-779	386	189	57	30	111
Symptoms, signs, and ill-defined conditions . . . . . 780-799	5,282	3,639	616	143	883
Injury and poisoning . . . . . 800-999	6,060	4,103	681	178	1,097
Fractures, all sites . . . . . 800-829	1,576	1,110	133	40	293
Fracture of neck of femur . . . . . 820	332	259	11	*7	55
Intracranial injuries (excluding those with skull fracture) . . . . . 850-854	254	162	23	10	58
Lacerations and open wounds . . . . . 870-904	555	337	107	18	94
Supplementary classifications . . . . . V01-V82	7,551	4,718	935	421	1,476
Females with deliveries . . . . . V27	3,973	2,244	557	289	883

<sup>1</sup>First-listed diagnosis for females with deliveries coded V27, shown under "Supplementary classifications."NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 21. Number of all-listed diagnoses for patients discharged from short-stay hospitals, by geographic region and diagnosis: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Diagnostic groupings and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

All-listed diagnoses and ICD-9-CM code	United States	North-east	Midwest	South	West
Number of all-listed diagnoses in thousands					
All conditions . . . . .	106,908	25,275	26,348	37,877	17,408
Infectious and parasitic diseases . . . . . 001-139	2,963	721	698	1,058	486
Septicemia . . . . . 038	517	125	113	199	80
Neoplasms . . . . . 140-239	4,492	1,230	1,059	1,493	710
Malignant neoplasms . . . . . 140-208,230-234	3,605	991	875	1,186	553
Malignant neoplasm of large intestine and rectum . . . . . 153-154,197.5	249	79	61	77	32
Malignant neoplasm of trachea, bronchus, and lung . . . . . 162,197.0,197.3	520	137	129	177	77
Malignant neoplasm of breast . . . . . 174-175,198.81	222	53	55	81	33
Benign neoplasms and neoplasms of uncertain behavior and unspecified nature . . . . . 210-229,235-239	887	239	183	307	158
Endocrine, nutritional and metabolic diseases, and immunity disorders . . . . . 240-279	9,811	2,258	2,576	3,652	1,324
Diabetes mellitus . . . . . 250	3,305	789	828	1,251	437
Volume depletion . . . . . 276.5	1,443	340	375	540	188
Diseases of the blood and blood-forming organs . . . . . 280-289	3,317	799	752	1,200	566
Mental disorders . . . . . 290-319	5,285	1,454	1,358	1,617	856
Psychoses . . . . . 290-299	1,846	507	473	562	304
Alcohol dependence syndrome . . . . . 303	662	176	179	195	113
Diseases of the nervous system and sense organs . . . . . 320-389	3,377	886	832	1,118	541
Diseases of the central nervous system . . . . . 320-336,340-349	1,681	398	445	546	293
Diseases of the ear and mastoid process . . . . . 380-389	557	159	140	173	85
Diseases of the circulatory system . . . . . 390-459	21,359	5,312	5,322	7,748	2,977
Heart disease . . . . . 391-392.0,393-398,402,404,410-416,420-429	13,568	3,460	3,337	4,864	1,906
Acute myocardial infarction . . . . . 410	809	211	197	285	117
Coronary atherosclerosis . . . . . 414.0	2,258	590	590	768	311
Other Ischemic heart disease . . . . . 411-413,414.1-414.9	2,647	719	649	917	362
Cardiac dysrhythmias . . . . . 427	2,818	690	672	1,039	416
Congestive heart failure . . . . . 428.0	2,142	511	561	805	265
Cerebrovascular disease . . . . . 430-438	1,744	371	452	671	249
Diseases of the respiratory system . . . . . 460-519	8,296	1,942	2,072	3,022	1,261
Acute respiratory infections . . . . . 460-466	970	191	288	361	130
Chronic disease of tonsils and adenoids . . . . . 474	108	52	14	26	16
Pneumonia . . . . . 480-486	1,662	347	441	631	243
Asthma . . . . . 493	923	259	232	273	159
Diseases of the digestive system . . . . . 520-579	7,938	1,894	1,988	2,882	1,174
Ulcers of the stomach and small intestine . . . . . 531-534	534	119	140	192	82
Appendicitis . . . . . 540-543	272	50	62	98	61
Inguinal hernia . . . . . 550	200	66	44	68	22
Noninfectious enteritis and colitis . . . . . 555-558	717	166	182	274	94
Cholelithiasis . . . . . 574	880	205	226	313	136
Diseases of the genitourinary system . . . . . 580-629	6,976	1,583	1,637	2,710	1,045
Calculus of kidney and ureter . . . . . 592	332	78	90	132	33
Hyperplasia of prostate . . . . . 600	404	100	100	143	61
Complications of pregnancy, childbirth, and the puerperium <sup>1</sup> . . . . . 630-676	7,729	1,435	1,694	2,703	1,897
Abortions and ectopic and molar pregnancies . . . . . 630-639	198	60	30	75	33
Diseases of the skin and subcutaneous tissue . . . . . 680-709	1,312	361	343	436	173
Cellulitis and abscess . . . . . 681-682	507	120	135	182	69
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	4,195	946	1,134	1,465	651
Arthropathies and related disorders . . . . . 710-719	1,737	391	488	586	272
Intervertebral disc disorders . . . . . 722	525	101	125	213	86
Congenital anomalies . . . . . 740-759	580	201	142	130	107
Certain conditions originating in the perinatal period . . . . . 760-779	386	90	101	94	101
Symptoms, signs, and ill-defined conditions . . . . . 780-799	5,282	1,195	1,334	1,953	800
Injury and poisoning . . . . . 800-999	6,060	1,428	1,529	2,047	1,056
Fractures, all sites . . . . . 800-829	1,576	350	397	561	268
Fracture of neck of femur . . . . . 820	332	67	82	125	59
Intracranial injuries (excluding those with skull fracture) . . . . . 850-854	254	52	83	74	45
Lacerations and open wounds . . . . . 870-904	555	136	133	186	100
Supplementary classifications . . . . . V01-V82	7,551	1,542	1,777	2,550	1,682
Females with deliveries . . . . . V27	3,973	670	875	1,418	1,010

<sup>1</sup>First-listed diagnosis for females with deliveries is coded V27, shown under "Supplementary classifications." NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.



**Table 22. Number of all-listed procedures for patients discharged from short-stay hospitals, by age and procedure category: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures by anatomical systems and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

<i>Procedure category and ICD-9-CM code</i>	<i>All ages</i>	<i>Under 15 years</i>	<i>15-44 years</i>	<i>45-64 years</i>	<i>65 years and over</i>
Number of all-listed procedures in thousands					
All procedures . . . . .	43,922	2,235	17,090	9,524	15,073
Operations on the nervous system . . . . . 01-05	970	236	328	196	210
Spinal tap . . . . . 03.31	380	183	94	46	57
Operations on the endocrine system . . . . . 06-07	103	*	41	33	25
Operations on the eye . . . . . 08-16	399	25	65	85	224
Operations on the ear . . . . . 18-20	129	66	36	15	13
Operations on the nose, mouth, and pharynx . . . . . 21-29	541	118	237	96	90
Tonsillectomy with or without adenoidectomy . . . . . 28.2-28.3	86	54	28	*	*
Operations on the respiratory system . . . . . 30-34	956	60	173	290	433
Bronchoscopy with or without biopsy . . . . . 33.21-33.24,33.27	309	18	45	95	152
Operations on the cardiovascular system . . . . . 35-39	4,123	148	477	1,476	2,022
Removal of coronary artery obstruction . . . . . 36.0	331	*	24	163	143
Coronary artery bypass graft <sup>1</sup> . . . . . 36.1	407	*	23	178	206
Cardiac catheterization . . . . . 37.21-37.23	1,000	19	89	447	446
Insertion, replacement, removal, and revision of pacemaker leads or device . . . . . 37.7-37.8	300	*	9	44	244
Shunt or vascular bypass . . . . . 39.0-39.2	168	*	14	57	93
Hemodialysis . . . . . 39.95	261	*	61	79	118
Operations on the hemic and lymphatic system . . . . . 40-41	392	20	77	110	185
Operations on the digestive system . . . . . 42-54	5,559	221	1,571	1,400	2,367
Endoscopy of small intestine with or without biopsy . . . . . 45.11-45.14,45.16	804	11	145	202	446
Endoscopy of large intestine with or without biopsy . . . . . 45.21-45.25	574	*	90	127	353
Partial excision of large intestine . . . . . 45.7	220	*	23	57	139
Appendectomy, excluding incidental . . . . . 47.0	255	57	156	29	14
Cholecystectomy . . . . . 51.2	571	*	194	189	185
Repair of inguinal hernia . . . . . 53.0-53.1	172	25	31	51	65
Lysis of peritoneal adhesions . . . . . 54.5	339	*5	167	75	92
Operations on the urinary system . . . . . 55-59	1,558	47	376	386	750
Cystoscopy with or without biopsy . . . . . 57.31-57.33	458	9	64	103	281
Operations on the male genital organs . . . . . 60-64	584	46	40	116	382
Prostatectomy . . . . . 60.2-60.6	363	-	*	68	295
Operations on the female genital organs . . . . . 65-71	2,308	*8	1,624	445	231
Oophorectomy and salpingo-oophorectomy . . . . . 65.3-65.6	458	*	248	150	59
Bilateral destruction or occlusion of fallopian tubes . . . . . 66.2-66.3	401	*	400	*	-
Hysterectomy . . . . . 68.3-68.7	546	-	322	161	63
Dilation and curettage of uterus . . . . . 69.0	196	*	159	22	14
Repair of cystocele and rectocele . . . . . 70.5	139	*	40	48	50
Obstetrical procedures . . . . . 72-75	6,867	24	6,839	*	...
Episiotomy with or without forceps or vacuum extraction . . . . . 72.1,72.21,72.31,72.71,73.6	1,684	*8	1,675	*	...
Artificial rupture of membranes . . . . . 73.0	775	*	771	*	...
Cesarean section . . . . . 74.0-74.2,74.4,74.99	933	*	931	*	...
Fetal EKG (scalp) and fetal monitoring, not otherwise specified . . . . . 75.32,75.34	1,327	*	1,321	*	...
Repair of current obstetric laceration . . . . . 75.5-75.6	795	*	792	*	...
Operations on the musculoskeletal system . . . . . 76-84	3,323	208	1,323	798	994
Partial excision of bone . . . . . 76.2-76.3,77.6-77.8	216	10	96	67	43
Open reduction of fracture with internal fixation . . . . . 79.3	418	27	145	76	170
Excision or destruction of intervertebral disc . . . . . 80.5	306	*	162	102	42
Total hip replacement . . . . . 81.51	117	*	*8	31	78
Total knee replacement . . . . . 81.54	160	-	*	36	121
Operations on the integumentary system . . . . . 85-86	1,324	75	488	330	431
Mastectomy . . . . . 85.4	118	*	17	42	58
Debridement of wound, infection, or burn . . . . . 86.22,86.28	326	19	107	62	138
Skin graft . . . . . 86.6-86.7	99	9	40	22	27
Miscellaneous diagnostic and therapeutic procedures . . . . . 87-99	14,785	929	3,397	3,743	6,715
Computerized axial tomography . . . . . 87.03,87.41,87.71,88.01,88.38	1,459	69	360	328	702
Pyelogram . . . . . 87.73-87.75	245	*	93	61	86
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	1,718	22	182	723	791
Diagnostic ultrasound . . . . . 88.7	1,592	74	424	354	739
Circulatory monitoring . . . . . 89.6	703	29	118	167	390
Radioisotope scan . . . . . 92.0-92.1	539	16	105	148	270
Respiratory therapy . . . . . 93.9	1,214	196	193	236	588

<sup>1</sup>The number of discharged patients with a coronary artery bypass graft was 265,000.

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

Table 23. Rate of all-listed procedures for patients discharged from short-stay hospitals, by age and procedure category: United States, 1991

Procedure category and ICD-9-CM code	All ages	Under 15 years	15-44 years	45-64 years	65 years and over
Rate of all-listed procedures per 100,000 population					
All procedures . . . . .	17,529.3	4,054.9	14,610.5	20,389.8	47,468.0
Operations on the nervous system . . . . . 01-05	387.3	428.9	280.6	419.7	660.4
Spinal tap . . . . . 03.31	151.6	332.2	80.6	97.5	178.8
Operations on the endocrine system . . . . . 06-07	41.0	*	35.3	71.7	77.2
Operations on the eye . . . . . 08-16	159.2	44.5	55.8	182.8	704.3
Operations on the ear . . . . . 18-20	51.6	119.3	30.6	31.7	40.3
Operations on the nose, mouth, and pharynx . . . . . 21-29	216.1	214.4	202.6	205.4	284.2
Tonsillectomy with or without adenoidectomy . . . . . 28.2-28.3	34.1	98.2	23.8	*	*
Operations on the respiratory system . . . . . 30-34	381.6	109.7	147.5	620.5	1,364.8
Bronchoscopy with or without biopsy . . . . . 33.21-33.24,33.27	123.4	32.2	38.4	202.3	479.0
Operations on the cardiovascular system . . . . . 35-39	1,645.5	269.0	407.5	3,161.0	6,366.7
Removal of coronary artery obstruction . . . . . 36.0	131.9	*	20.8	350.0	449.1
Coronary artery bypass graft <sup>1</sup> . . . . . 36.1	162.6	*	19.4	381.3	650.2
Cardiac catheterization . . . . . 37.21-37.23	399.1	33.7	75.9	956.3	1,404.8
Insertion, replacement, removal, and revision of pacemaker leads or device . . . . . 37.7-37.8	119.6	*	7.8	94.3	769.9
Shunt or vascular bypass . . . . . 39.0-39.2	67.2	*	11.9	121.7	293.5
Hemodialysis . . . . . 39.95	104.0	*	52.5	168.1	372.6
Operations on the hemic and lymphatic system . . . . . 40-41	156.3	35.5	66.2	234.5	583.3
Operations on the digestive system . . . . . 42-54	2,218.8	401.3	1,342.6	2,997.9	7,455.8
Endoscopy of small intestine with or without biopsy . . . . . 45.11-45.14,45.16	320.9	20.1	123.9	431.9	1,405.6
Endoscopy of large intestine with or without biopsy . . . . . 45.21-45.25	229.0	*	77.3	272.1	1,111.1
Partial excision of large intestine . . . . . 45.7	87.7	*	19.6	121.6	436.3
Appendectomy, excluding incidental . . . . . 47.0	101.8	102.5	133.4	61.8	42.6
Cholecystectomy . . . . . 51.2	227.8	*	165.8	405.0	581.9
Repair of inguinal hernia . . . . . 53.0-53.1	68.8	45.8	26.8	109.0	204.1
Lysis of peritoneal adhesions . . . . . 54.5	135.4	*9.3	142.8	161.3	289.5
Operations on the urinary system . . . . . 55-59	621.8	85.0	321.2	825.3	2,361.6
Cystoscopy with or without biopsy . . . . . 57.31-57.33	182.6	17.2	54.7	221.1	884.7
Operations on the male genital organs . . . . . 60-64	233.2	84.3	33.9	248.5	1,203.3
Prostatectomy . . . . . 60.2-60.6	145.1	-	*	145.6	930.0
Operations on the female genital organs . . . . . 65-71	921.3	*14.9	1,388.0	953.3	728.4
Oophorectomy and salpingo-oophorectomy . . . . . 65.3-65.6	182.7	*	211.8	321.7	184.2
Bilateral destruction or occlusion of fallopian tubes . . . . . 66.2-66.3	160.1	*	341.7	*	-
Hysterectomy . . . . . 68.3-68.7	218.0	-	275.6	344.7	198.2
Dilation and curettage of uterus . . . . . 69.0	78.0	*	136.0	46.1	43.9
Repair of cystocele and rectocele . . . . . 70.5	55.3	*	34.0	103.6	158.5
Obstetrical procedures . . . . . 72-75	2,740.4	43.4	5,846.4	*	...
Episiotomy with or without forceps or vacuum extraction . . . . . 72.1,72.21,72.31,72.71,73.6	672.2	*14.0	1,431.9	*	...
Artificial rupture of membranes . . . . . 73.0	309.2	*	659.5	*	...
Cesarean section . . . . . 74.0-74.2,74.4,74.99	372.5	*	795.9	*	...
Fetal EKG (scalp) and fetal monitoring, not otherwise specified . . . . . 75.32,75.34	529.4	*	1,129.6	*	...
Repair of current obstetric laceration . . . . . 75.5-75.6	317.3	*	677.3	*	...
Operations on the musculoskeletal system . . . . . 76-84	1,326.3	376.9	1,131.2	1,708.4	3,131.8
Partial excision of bone . . . . . 76.2-76.3,77.6-77.8	86.2	17.9	82.3	142.8	136.0
Open reduction of fracture with internal fixation . . . . . 79.3	166.7	48.4	124.2	162.3	535.6
Excision or destruction of intervertebral disc . . . . . 80.5	122.2	*	138.1	218.3	131.4
Total hip replacement . . . . . 81.51	46.6	*	*7.2	65.5	244.5
Total knee replacement . . . . . 81.54	64.0	-	*	77.6	382.3
Operations on the integumentary system . . . . . 85-86	528.5	135.9	417.3	706.7	1,357.2
Mastectomy . . . . . 85.4	47.2	*	14.8	90.3	184.0
Debridement of wound, infection, or burn . . . . . 86.22,86.28	130.0	35.2	91.1	133.0	433.6
Skin graft . . . . . 86.6-86.7	39.5	17.2	34.5	48.2	84.0
Miscellaneous diagnostic and therapeutic procedures . . . . . 87-99	5,900.5	1,685.4	2,903.8	8,013.9	21,148.8
Computerized axial tomography . . . . . 87.03,87.41,87.71,88.01,88.38	582.4	125.5	308.0	701.7	2,210.6
Pyelogram . . . . . 87.73-87.75	97.8	*	79.9	129.9	272.0
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	685.8	40.3	155.5	1,548.0	2,492.2
Diagnostic ultrasound . . . . . 88.7	635.2	133.3	362.7	758.9	2,328.6
Circulatory monitoring . . . . . 89.6	280.5	52.0	100.9	356.6	1,226.9
Radiolotope scan . . . . . 92.0-92.1	215.0	28.5	89.7	316.3	851.8
Respiratory therapy . . . . . 93.9	484.5	356.1	165.2	505.2	1,853.0

NOTE: See "Medical Coding and Edit," Appendix J, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 24. Number of all-listed procedures for patients discharged from short-stay hospitals, by sex and procedure category: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures by anatomical systems and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

Procedure category and ICD-9-CM code	Both sexes	Male	Female
Number of all-listed procedures in thousands			
All procedures . . . . .	43,922	17,264	26,658
Operations on the nervous system . . . . . 01-05	970	500	470
Spinal tap . . . . . 03.31	380	208	172
Operations on the endocrine system . . . . . 06-07	103	28	75
Operations on the eye . . . . . 08-16	399	189	210
Operations on the ear . . . . . 18-20	129	75	54
Operations on the nose, mouth, and pharynx . . . . . 21-29	541	288	254
Tonsillectomy with or without adenoidectomy . . . . . 28.2-28.3	86	40	46
Operations on the respiratory system . . . . . 30-34	956	561	396
Bronchoscopy with or without biopsy . . . . . 33.21-33.24,33.27	309	186	123
Operations on the cardiovascular system . . . . . 35-39	4,123	2,383	1,740
Removal of coronary artery obstruction . . . . . 36.0	331	223	107
Coronary artery bypass graft <sup>1</sup> . . . . . 36.1	407	296	111
Cardiac catheterization . . . . . 37.21-37.23	1,000	603	397
Insertion, replacement, removal, and revision of pacemaker leads or device . . . . . 37.7-37.8	300	145	155
Shunt or vascular bypass . . . . . 39.0-39.2	168	92	76
Hemodialysis . . . . . 39.95	261	129	132
Operations on the hemic and lymphatic system . . . . . 40-41	392	212	180
Operations on the digestive system . . . . . 42-54	5,559	2,319	3,241
Endoscopy of small intestine with or without biopsy . . . . . 45.11-45.14,45.16	804	391	413
Endoscopy of large intestine with or without biopsy . . . . . 45.21-45.25	574	234	340
Partial excision of large intestine . . . . . 45.7	220	94	125
Appendectomy, excluding incidental . . . . . 47.0	255	135	120
Cholecystectomy . . . . . 51.2	571	166	404
Repair of inguinal hernia . . . . . 53.0-53.1	172	155	17
Lysis of peritoneal adhesions . . . . . 54.5	339	60	279
Operations on the urinary system . . . . . 55-59	1,558	884	674
Cystoscopy with or without biopsy . . . . . 57.31-57.33	458	333	125
Operations on the male genital organs . . . . . 60-64	584	584	...
Prostatectomy . . . . . 60.2-60.6	363	363	...
Operations on the female genital organs . . . . . 65-71	2,308	...	2,308
Oophorectomy and salpingo-oophorectomy . . . . . 65.3-65.6	458	...	458
Bilateral destruction or occlusion of fallopian tubes . . . . . 66.2-66.3	401	...	401
Hysterectomy . . . . . 68.3-68.7	546	...	546
Dilation and curettage of uterus . . . . . 69.0	196	...	196
Repair of cystocele and rectocele . . . . . 70.5	139	...	139
Obstetrical procedures . . . . . 72-75	6,867	...	6,867
Episiotomy with or without forceps or vacuum extraction . . . . . 72.1,72.21,72.31,72.71,73.6	1,684	...	1,684
Artificial rupture of membranes . . . . . 73.0	775	...	775
Cesarean section . . . . . 74.0-74.2,74.4,74.99	933	...	933
Fetal EKG (scalp) and fetal monitoring, not otherwise specified . . . . . 75.32,75.34	1,327	...	1,327
Repair of current obstetric laceration . . . . . 75.5-75.6	795	...	795
Operations on the musculoskeletal system . . . . . 76-84	3,323	1,710	1,614
Partial excision of bone . . . . . 76.2-76.3,77.6-77.8	216	119	97
Open reduction of fracture with internal fixation . . . . . 79.3	418	193	225
Excision or destruction of intervertebral disc . . . . . 80.5	306	181	125
Total hip replacement . . . . . 81.51	117	50	67
Total knee replacement . . . . . 81.54	160	60	100
Operations on the integumentary system . . . . . 85-86	1,324	552	773
Mastectomy . . . . . 85.4	118	*	117
Debridement of wound, infection, or burn . . . . . 86.22,86.28	326	181	145
Skin graft . . . . . 86.6-86.7	99	60	39
Miscellaneous diagnostic and therapeutic procedures . . . . . 87-99	14,785	6,981	7,804
Computerized axial tomography . . . . . 87.03,87.41,87.71,88.01,88.38	1,459	701	757
Pyelogram . . . . . 87.73-87.75	245	133	112
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	1,718	989	729
Diagnostic ultrasound . . . . . 88.7	1,592	652	940
Circulatory monitoring . . . . . 89.6	703	339	364
Radioisotope scan . . . . . 92.0-92.1	539	228	311
Respiratory therapy . . . . . 93.9	1,214	596	618

<sup>1</sup>The number of discharged patients with a coronary artery bypass graft was 265,000.

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 25. Rate of all-listed procedures for patients discharged from short-stay hospitals, by sex and procedure category: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures by anatomical systems and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

Procedure category and ICD-9-CM code	Both sexes	Male	Female
Rate of all-listed procedures per 100,000 population			
All procedures . . . . .	17,529.3	14,204.6	20,661.0
Operations on the nervous system . . . . . 01-05	387.3	411.5	364.5
Spinal tap . . . . . 03.31	151.6	171.1	133.2
Operations on the endocrine system . . . . . 06-07	41.0	22.9	58.1
Operations on the eye . . . . . 08-16	159.2	155.7	162.4
Operations on the ear . . . . . 18-20	51.6	61.7	42.0
Operations on the nose, mouth, and pharynx . . . . . 21-29	216.1	236.7	196.7
Tonsillectomy with or without adenoidectomy . . . . . 28.2-28.3	34.1	32.5	35.7
Operations on the respiratory system . . . . . 30-34	381.6	461.2	306.6
Bronchoscopy with or without biopsy . . . . . 33.21-33.24,33.27	123.4	153.4	95.2
Operations on the cardiovascular system . . . . . 35-39	1,645.5	1,960.3	1,348.9
Removal of coronary artery obstruction . . . . . 36.0	131.9	183.5	83.3
Coronary artery bypass graft <sup>1</sup> . . . . . 36.1	162.6	243.5	86.4
Cardiac catheterization . . . . . 37.21-37.23	399.1	496.0	307.9
Insertion, replacement, removal, and revision of pacemaker leads or device . . . . . 37.7-37.8	119.6	119.3	119.9
Shunt or vascular bypass . . . . . 39.0-39.2	67.2	75.7	59.1
Hemodialysis . . . . . 39.95	104.0	106.0	102.2
Operations on the hemic and lymphatic system . . . . . 40-41	156.3	174.3	139.4
Operations on the digestive system . . . . . 42-54	2,218.8	1,908.0	2,511.6
Endoscopy of small intestine with or without biopsy . . . . . 45.11-45.14,45.16	320.9	321.9	320.0
Endoscopy of large intestine with or without biopsy . . . . . 45.21-45.25	229.0	192.6	263.4
Partial excision of large intestine . . . . . 45.7	87.7	77.7	97.1
Appendectomy, excluding incidental . . . . . 47.0	101.8	111.4	92.7
Cholecystectomy . . . . . 51.2	227.8	136.9	313.4
Repair of inguinal hernia . . . . . 53.0-53.1	68.8	127.4	13.6
Lysis of peritoneal adhesions . . . . . 54.5	135.4	49.4	216.5
Operations on the urinary system . . . . . 55-59	621.8	727.4	522.3
Cystoscopy with or without biopsy . . . . . 57.31-57.33	182.6	273.9	96.7
Operations on the male genital organs . . . . . 60-64	233.2	480.8	...
Prostatectomy . . . . . 60.2-60.6	145.1	299.1	...
Operations on the female genital organs . . . . . 65-71	921.3	...	1,789.0
Oophorectomy and salpingo-oophorectomy . . . . . 65.3-65.6	182.7	...	354.8
Bilateral destruction or occlusion of fallopian tubes . . . . . 66.2-66.3	160.1	...	310.9
Hysterectomy . . . . . 68.3-68.7	218.0	...	423.4
Dilation and curettage of uterus . . . . . 69.0	78.0	...	151.6
Repair of cystocele and rectocele . . . . . 70.5	55.3	...	107.4
Obstetrical procedures . . . . . 72-75	2,740.4	...	5,321.8
Episiotomy with or without forceps or vacuum extraction . . . . . 72.1,72.21,72.31,72.71,73.6	672.2	...	1,305.3
Artificial rupture of membranes . . . . . 73.0	309.2	...	600.4
Cesarean section . . . . . 74.0-74.2,74.4,74.99	372.5	...	723.4
Fetal EKG (scalp) and fetal monitoring, not otherwise specified . . . . . 75.32,75.34	529.4	...	1,028.1
Repair of current obstetric laceration . . . . . 75.5-75.6	317.3	...	616.1
Operations on the musculoskeletal system . . . . . 76-84	1,326.3	1,406.7	1,250.6
Partial excision of bone . . . . . 76.2-76.3,77.6-77.8	86.2	97.6	75.5
Open reduction of fracture with internal fixation . . . . . 79.3	166.7	158.4	174.6
Excision or destruction of intervertebral disc . . . . . 80.5	122.2	149.3	96.6
Total hip replacement . . . . . 81.51	46.6	41.1	51.8
Total knee replacement . . . . . 81.54	64.0	49.4	77.8
Operations on the integumentary system . . . . . 85-86	528.5	453.8	598.8
Mastectomy . . . . . 85.4	47.2	*	90.9
Debridement of wound, infection, or burn . . . . . 86.22,86.28	130.0	149.0	112.1
Skin graft . . . . . 86.6-86.7	39.5	49.0	30.6
Miscellaneous diagnostic and therapeutic procedures . . . . . 87-99	5,900.5	5,743.6	6,048.2
Computerized axial tomography . . . . . 87.03,87.41,87.71,88.01,88.38	582.4	577.4	587.0
Pyelogram . . . . . 87.73-87.75	97.8	109.3	86.9
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	685.8	813.8	565.3
Diagnostic ultrasound . . . . . 88.7	635.2	536.2	728.5
Circulatory monitoring . . . . . 89.6	280.5	278.9	282.0
Radioisotope scan . . . . . 92.0-92.1	215.0	187.5	241.0
Respiratory therapy . . . . . 93.9	484.5	490.1	479.1

<sup>1</sup>The rate per 100,000 population of discharged patients with a coronary bypass graft was 105.8.

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 26. Number of all-listed procedures for patients discharged from short-stay hospitals, by race and procedure category: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures by anatomical systems and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

<i>Procedure category and ICD-9-CM code</i>	<i>All races</i>	<i>White</i>	<i>Black</i>	<i>All Other</i>	<i>Not Stated</i>
Number of all-listed procedures in thousands					
All procedures . . . . .	43,922	29,308	4,987	1,822	7,805
Operations on the nervous system . . . . . 01-05	970	597	128	35	210
Spinal tap . . . . . 03.31	380	200	72	19	89
Operations on the endocrine system . . . . . 06-07	103	66	9	*	23
Operations on the eye . . . . . 08-16	399	282	38	11	67
Operations on the ear . . . . . 18-20	129	94	11	*	20
Operations on the nose, mouth, and pharynx . . . . . 21-29	541	390	49	16	87
Tonsillectomy with or without adenoidectomy . . . . . 28.2-28.3	86	61	*8	*	14
Operations on the respiratory system . . . . . 30-34	956	662	112	31	151
Bronchoscopy with or without biopsy . . . . . 33.21-33.24,35.27	309	215	38	10	46
Operations on the cardiovascular system . . . . . 35-39	4,123	2,883	405	124	712
Removal of coronary artery obstruction . . . . . 36.0	331	240	17	10	64
Coronary artery bypass graft <sup>1</sup> . . . . . 36.1	407	317	12	*9	69
Cardiac catheterization . . . . . 37.21-37.23	1,000	745	65	21	169
Insertion, replacement, removal, and revision of pacemaker leads or device . . . . . 37.7-37.8	300	222	24	*6	47
Shunt or vascular bypass . . . . . 39.0-39.2	168	111	26	*	27
Hemodialysis . . . . . 39.95	261	122	74	19	46
Operations on the hemic and lymphatic system . . . . . 40-41	392	279	37	11	64
Operations on the digestive system . . . . . 42-54	5,559	3,877	581	153	949
Endoscopy of small intestine with or without biopsy . . . . . 45.11-45.14,45.16	804	552	93	26	133
Endoscopy of large intestine with or without biopsy . . . . . 45.21-45.25	574	413	63	14	84
Partial excision of large intestine . . . . . 45.7	220	165	16	*	34
Appendectomy, excluding incidental . . . . . 47.0	255	175	19	13	48
Cholecystectomy . . . . . 51.2	571	421	45	13	91
Repair of inguinal hernia . . . . . 53.0-53.1	172	125	14	*	28
Lysis of peritoneal adhesions . . . . . 54.5	339	234	42	*8	55
Operations on the urinary system . . . . . 55-59	1,558	1,141	126	57	234
Cystoscopy with or without biopsy . . . . . 57.31-57.33	458	349	35	*9	65
Operations on the male genital organs . . . . . 60-64	584	421	55	11	98
Prostatectomy . . . . . 60.2-60.6	363	271	25	*6	62
Operations on the female genital organs . . . . . 65-71	2,308	1,506	317	85	400
Oophorectomy and salpingo-oophorectomy . . . . . 65.3-65.6	458	326	50	13	69
Bilateral destruction or occlusion of fallopian tubes . . . . . 66.2-66.3	401	224	74	25	78
Hysterectomy . . . . . 68.3-68.7	546	377	64	15	90
Dilation and curettage of uterus . . . . . 69.0	196	112	40	12	32
Repair of cystocele and rectocele . . . . . 70.5	139	105	*	*	27
Obstetrical procedures . . . . . 72-75	6,867	3,961	880	559	1,467
Episiotomy with or without forceps or vacuum extraction . . . . . 72.1,72.21,72.31,72.71,73.6	1,684	1,037	154	108	385
Artificial rupture of membranes . . . . . 73.0	775	445	77	75	178
Cesarean section . . . . . 74.0-74.2,74.4,74.99	933	538	135	64	195
Fetal EKG (scalp) and fetal monitoring, not otherwise specified . . . . . 75.32,75.34	1,327	754	173	163	236
Repair of current obstetric laceration . . . . . 75.5-75.6	795	467	87	63	177
Operations on the musculoskeletal system . . . . . 76-84	3,323	2,345	253	80	646
Partial excision of bone . . . . . 76.2-76.3,77.6-77.8	216	157	12	*	43
Open reduction of fracture with internal fixation . . . . . 79.3	418	299	33	11	74
Excision or destruction of intervertebral disc . . . . . 80.5	306	230	14	*	57
Total hip replacement . . . . . 81.51	117	87	*	*	24
Total knee replacement . . . . . 81.54	160	119	*9	*	31
Operations on the integumentary system . . . . . 85-86	1,324	897	177	39	210
Mastectomy . . . . . 85.4	118	86	10	*	20
Debridement of wound, infection, or burn . . . . . 86.22,86.28	326	202	59	*9	56
Skin graft . . . . . 86.6-86.7	99	59	18	*	18
Miscellaneous diagnostic and therapeutic procedures . . . . . 87-99	14,785	9,906	1,810	602	2,467
Computerized axial tomography . . . . . 87.03,87.41,87.71,88.01,88.38	1,459	965	189	54	251
Pyelogram . . . . . 87.73-87.75	245	177	24	*8	36
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	1,718	1,288	126	37	267
Diagnostic ultrasound . . . . . 88.7	1,592	1,008	261	71	251
Circulatory monitoring . . . . . 89.6	703	457	96	44	106
Radioisotope scan . . . . . 92.0-92.1	539	355	71	19	93
Respiratory therapy . . . . . 93.9	1,214	751	169	72	221

<sup>1</sup>The number of discharged patients with a coronary artery bypass graft was 265,000.

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 27. Rate of all-listed procedures for patients discharged from short-stay hospitals, by race and procedure category: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures by anatomical systems and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

Procedure category and ICD-9-CM code	All races	White	Black	All other	Not stated
Rate of all-listed procedures per 100,000 population					
All procedures . . . . .	17,529.3	13,979.7	16,163.8	18,101.7	...
Operations on the nervous system . . . . . 01-05	387.3	284.8	414.3	348.5	...
Spinal tap . . . . . 03.31	151.6	95.4	232.6	190.0	...
Operations on the endocrine system . . . . . 06-07	41.0	31.6	30.2	*	...
Operations on the eye . . . . . 08-16	159.2	134.7	122.2	112.4	...
Operations on the ear . . . . . 18-20	51.6	44.6	36.0	*	...
Operations on the nose, mouth, and pharynx . . . . . 21-29	216.1	186.3	158.2	154.3	...
Tonsillectomy with or without adenoidectomy . . . . . 28.2-28.3	34.1	29.1	*26.9	*	...
Operations on the respiratory system . . . . . 30-34	381.6	315.7	364.4	310.8	...
Bronchoscopy with or without biopsy . . . . . 33.21-33.24,33.27	123.4	102.4	123.8	101.8	...
Operations on the cardiovascular system . . . . . 35-39	1,645.5	1,375.0	1,311.2	1,232.7	...
Removal of coronary artery obstruction . . . . . 36.0	131.9	114.3	54.5	97.3	...
Coronary artery bypass graft <sup>1</sup> . . . . . 36.1	162.6	151.4	38.2	*88.6	...
Cardiac catheterization . . . . . 37.21-37.23	399.1	355.3	211.6	206.3	...
Insertion, replacement, removal, and revision of pacemaker leads or device . . . . . 37.7-37.8	119.6	105.8	79.3	*63.5	...
Shunt or vascular bypass . . . . . 39.0-39.2	67.2	53.1	83.1	*	...
Hemodialysis . . . . . 39.95	104.0	58.1	239.1	186.2	...
Operations on the hemic and lymphatic system . . . . . 40-41	156.3	133.3	120.3	107.1	...
Operations on the digestive system . . . . . 42-54	2,218.8	1,849.3	1,881.9	1,519.1	...
Endoscopy of small intestine with or without biopsy . . . . . 45.11-45.14,45.16	320.9	263.5	301.2	253.8	...
Endoscopy of large intestine with or without biopsy . . . . . 45.21-45.25	229.0	197.2	202.9	136.3	...
Partial excision of large intestine . . . . . 45.7	87.7	78.5	52.1	*	...
Appendectomy, excluding incidental . . . . . 47.0	101.8	83.5	60.5	128.8	...
Cholecystectomy . . . . . 51.2	227.8	201.0	145.6	128.7	...
Repair of inguinal hernia . . . . . 53.0-53.1	68.8	59.6	46.8	*	...
Lysis of peritoneal adhesions . . . . . 54.5	135.4	111.5	137.1	*83.5	...
Operations on the urinary system . . . . . 55-59	621.8	544.5	407.4	568.1	...
Cystoscopy with or without biopsy . . . . . 57.31-57.33	182.6	166.4	113.1	*91.5	...
Operations on the male genital organs . . . . . 60-64	233.2	200.8	177.6	104.7	...
Prostatectomy . . . . . 60.2-60.6	145.1	129.1	81.6	*56.1	...
Operations on the female genital organs . . . . . 65-71	921.3	718.2	1,028.9	846.5	...
Oophorectomy and salpingo-oophorectomy . . . . . 65.3-65.6	182.7	155.5	160.9	132.9	...
Bilateral destruction or occlusion of fallopian tubes . . . . . 66.2-66.3	160.1	106.9	239.7	250.7	...
Hysterectomy . . . . . 68.3-68.7	218.0	179.9	206.5	149.8	...
Dilation and curettage of uterus . . . . . 69.0	78.0	53.3	129.0	115.1	...
Repair of cystocele and rectocele . . . . . 70.5	55.3	49.9	*	*	...
Obstetrical procedures . . . . . 72-75	2,740.4	1,889.3	2,850.6	5,551.7	...
Episiotomy with or without forceps or vacuum extraction . . . . . 72.1,72.21,72.31,72.71,73.6	672.2	494.5	500.2	1,070.5	...
Artificial rupture of membranes . . . . . 73.0	309.2	212.1	250.5	745.5	...
Cesarean section . . . . . 74.0-74.2,74.4,74.99	372.5	256.8	439.2	635.5	...
Fetal EKG (scalp) and fetal monitoring, not otherwise specified . . . . . 75.32,75.34	529.4	359.8	561.0	1,623.9	...
Repair of current obstetric laceration . . . . . 75.5-75.6	317.3	222.8	283.4	630.2	...
Operations on the musculoskeletal system . . . . . 76-84	1,326.3	1,118.5	819.8	793.9	...
Partial excision of bone . . . . . 76.2-76.3,77.6-77.8	86.2	74.9	39.3	*	...
Open reduction of fracture with internal fixation . . . . . 79.3	166.7	142.8	107.0	109.3	...
Excision or destruction of intervertebral disc . . . . . 80.5	122.2	109.5	46.7	*	...
Total hip replacement . . . . . 81.51	46.6	41.3	*	*	...
Total knee replacement . . . . . 81.54	64.0	56.7	*27.9	*	...
Operations on the integumentary system . . . . . 85-86	528.5	428.0	574.4	388.8	...
Mastectomy . . . . . 85.4	47.2	40.9	31.8	*	...
Debridement of wound, infection, or burn . . . . . 86.22,86.28	130.0	96.5	190.7	*90.5	...
Skin graft . . . . . 86.6-86.7	39.5	28.3	57.7	*	...
Miscellaneous diagnostic and therapeutic procedures . . . . . 87-99	5,900.5	4,725.1	5,866.5	5,976.7	...
Computerized axial tomography . . . . . 87.03,87.41,87.71,88.01,88.38	582.4	460.4	612.4	539.9	...
Pyelogram . . . . . 87.73-87.75	97.8	84.5	76.9	*81.5	...
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	685.8	614.6	408.2	369.5	...
Diagnostic ultrasound . . . . . 88.7	635.2	481.0	845.9	709.4	...
Circulatory monitoring . . . . . 89.6	280.5	218.1	312.1	433.0	...
Radioisotope scan . . . . . 92.0-92.1	215.0	169.2	231.4	192.7	...
Respiratory therapy . . . . . 93.9	484.5	358.4	547.2	719.1	...

<sup>1</sup>The rate per 100,000 population of discharged patients with a coronary bypass graft was 105.8.

NOTES: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey. Rates for race categories may be underestimated because race was not reported for all discharged patients.

**Table 28. Number of all-listed procedures for patients discharged from short-stay hospitals, by geographic region and procedure category: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures by anatomical systems and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

Procedure category and ICD-9-CM code	United States	North-east	Midwest	South	West
Number of all-listed procedures in thousands					
All procedures . . . . .	43,922	11,038	9,539	14,336	9,010
Operations on the nervous system . . . . . 01-05	970	246	204	324	196
Spinal tap . . . . . 03.31	380	100	75	130	75
Operations on the endocrine system . . . . . 06-07	103	25	27	29	22
Operations on the eye . . . . . 08-16	399	145	66	128	59
Operations on the ear . . . . . 18-20	129	57	24	30	18
Operations on the nose, mouth, and pharynx . . . . . 21-29	541	196	93	167	86
Tonsillectomy with or without adenoidectomy . . . . . 28.2-28.3	86	37	11	23	13
Operations on the respiratory system . . . . . 30-34	956	254	202	334	166
Bronchoscopy with or without biopsy . . . . . 33.21-33.24,33.27	309	85	58	112	54
Operations on the cardiovascular system . . . . . 35-39	4,123	925	1,019	1,476	703
Removal of coronary artery obstruction . . . . . 36.0	331	57	94	109	71
Coronary artery bypass graft <sup>1</sup> . . . . . 36.1	407	86	113	134	74
Cardiac catheterization . . . . . 37.21-37.23	1,000	214	251	398	137
Insertion, replacement, removal, and revision of pacemaker leads or device . . . . . 37.7-37.8	300	79	66	115	40
Shunt or vascular bypass . . . . . 39.0-39.2	168	45	34	60	29
Hemodialysis . . . . . 39.95	261	58	53	96	54
Operations on the hemic and lymphatic system . . . . . 40-41	392	107	92	130	63
Operations on the digestive system . . . . . 42-54	5,559	1,359	1,334	1,959	908
Endoscopy of small intestine with or without biopsy . . . . . 45.11-45.14,45.16	804	189	190	295	130
Endoscopy of large intestine with or without biopsy . . . . . 45.21-45.25	574	162	128	208	76
Partial excision of large intestine . . . . . 45.7	220	55	55	72	38
Appendectomy, excluding incidental . . . . . 47.0	255	51	60	84	60
Cholecystectomy . . . . . 51.2	571	133	134	206	98
Repair of inguinal hernia . . . . . 53.0-53.1	172	60	36	57	19
Lysis of peritoneal adhesions . . . . . 54.5	339	69	90	125	55
Operations on the urinary system . . . . . 55-59	1,558	432	346	531	249
Cystoscopy with or without biopsy . . . . . 57.31-57.33	458	131	115	168	44
Operations on the male genital organs . . . . . 60-64	584	145	141	210	89
Prostatectomy . . . . . 60.2-60.6	363	75	89	137	62
Operations on the female genital organs . . . . . 65-71	2,308	450	463	954	441
Oophorectomy and salpingo-oophorectomy . . . . . 65.3-65.6	458	74	109	191	84
Bilateral destruction or occlusion of fallopian tubes . . . . . 66.2-66.3	401	63	74	192	72
Hysterectomy . . . . . 68.3-68.7	546	79	125	237	106
Dilation and curettage of uterus . . . . . 69.0	196	69	29	69	29
Repair of cystocele and rectocele . . . . . 70.5	139	17	33	58	30
Obstetrical procedures . . . . . 72-75	6,867	1,268	1,593	2,065	1,942
Episiotomy with or without forceps or vacuum extraction . . . . . 72.1,72.21,72.31,72.71,73.6	1,684	300	435	582	368
Artificial rupture of membranes . . . . . 73.0	775	139	194	169	273
Cesarean section . . . . . 74.0-74.2,74.4,74.99	933	152	191	391	200
Fetal EKG (scalp) and fetal monitoring, not otherwise specified . . . . . 75.32,75.34	1,327	295	324	205	503
Repair of current obstetric laceration . . . . . 75.5-75.6	795	145	185	231	234
Operations on the musculoskeletal system . . . . . 76-84	3,323	829	742	1,139	613
Partial excision of bone . . . . . 76.2-76.3,77.6-77.8	216	55	48	74	39
Open reduction of fracture with internal fixation . . . . . 79.3	418	98	90	162	68
Excision or destruction of intervertebral disc . . . . . 80.5	306	50	71	124	61
Total hip replacement . . . . . 81.51	117	26	29	38	23
Total knee replacement . . . . . 81.54	160	32	45	58	26
Operations on the integumentary system . . . . . 85-86	1,324	375	285	458	206
Mastectomy . . . . . 85.4	118	23	32	42	21
Debridement of wound, infection, or burn . . . . . 86.22,86.28	326	84	75	116	51
Skin graft . . . . . 86.6-86.7	99	24	20	38	18
Miscellaneous diagnostic and therapeutic procedures . . . . . 87-99	14,785	4,224	2,908	4,402	3,250
Computerized axial tomography . . . . . 87.03,87.41,87.71,88.01,88.38	1,459	454	276	462	267
Pyelogram . . . . . 87.73-87.75	245	71	48	95	31
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	1,718	388	456	644	230
Diagnostic ultrasound . . . . . 88.7	1,592	449	283	497	362
Circulatory monitoring . . . . . 89.6	703	202	98	168	235
Radioisotope scan . . . . . 92.0-92.1	539	173	84	174	108
Respiratory therapy . . . . . 93.9	1,214	312	216	269	416

<sup>1</sup>The number of discharged patients with a coronary artery bypass graft was 265,000.

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.

**Table 29. Rate of all-listed procedures for patients discharged from short-stay hospitals, by geographic region and procedure category: United States, 1991**

[Discharges from non-Federal hospitals. Excludes newborn infants. Groupings of procedures by anatomical systems and code number inclusions are based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*]

Procedure category and ICD-9-CM code	United States	North-east	Midwest	South	West
Rate of all-listed procedures per 100,000 population					
All procedures . . . . .	17,529.3	21,697.1	15,873.9	16,657.1	16,829.5
Operations on the nervous system . . . . . 01-05	387.3	484.5	338.7	376.7	366.5
Spinal tap . . . . . 03.31	151.6	195.7	124.4	151.3	140.6
Operations on the endocrine system . . . . . 06-07	41.0	48.3	45.3	33.9	40.9
Operations on the eye . . . . . 08-16	159.2	285.3	110.5	149.2	109.9
Operations on the ear . . . . . 18-20	51.6	112.6	40.7	34.5	33.3
Operations on the nose, mouth, and pharynx . . . . . 21-29	216.1	384.7	155.0	193.6	160.5
Tonsillectomy with or without adenoidectomy . . . . . 28.2-28.3	34.1	73.2	19.0	27.3	24.9
Operations on the respiratory system . . . . . 30-34	381.6	499.7	336.0	388.3	309.9
Bronchoscopy with or without biopsy . . . . . 33.21-33.24,33.27	123.4	168.0	95.9	130.7	100.2
Operations on the cardiovascular system . . . . . 35-39	1,645.5	1,818.2	1,695.0	1,715.5	1,313.3
Removal of coronary artery obstruction . . . . . 36.0	131.9	112.6	155.8	126.1	132.7
Coronary artery bypass graft <sup>1</sup> . . . . . 36.1	162.6	169.4	187.8	156.2	138.0
Cardiac catheterization . . . . . 37.21-37.23	399.1	420.8	417.9	462.4	255.8
Insertion, replacement, removal, and revision of pacemaker leads or device . . . . . 37.7-37.8	119.6	156.1	109.3	133.4	74.4
Shunt or vascular bypass . . . . . 39.0-39.2	67.2	89.2	56.5	69.5	54.5
Hemodialysis . . . . . 39.95	104.0	114.3	87.7	111.7	100.5
Operations on the hemic and lymphatic system . . . . . 40-41	156.3	210.8	152.5	151.4	116.9
Operations on the digestive system . . . . . 42-54	2,218.8	2,670.7	2,220.8	2,275.6	1,695.8
Endoscopy of small intestine with or without biopsy . . . . . 45.11-45.14,45.16	320.9	372.2	316.1	342.2	243.2
Endoscopy of large intestine with or without biopsy . . . . . 45.21-45.25	229.0	318.0	213.4	241.1	142.7
Partial excision of large intestine . . . . . 45.7	87.7	107.7	91.4	84.1	70.2
Appendectomy, excluding incidental . . . . . 47.0	101.8	99.9	99.9	98.1	111.5
Cholecystectomy . . . . . 51.2	227.8	261.6	222.5	238.8	183.8
Repair of inguinal hernia . . . . . 53.0-53.1	68.8	117.6	60.4	66.6	35.2
Lysis of peritoneal adhesions . . . . . 54.5	135.4	136.1	150.4	144.8	103.0
Operations on the urinary system . . . . . 55-59	621.8	849.7	575.6	616.9	464.9
Cystoscopy with or without biopsy . . . . . 57.31-57.33	182.6	257.3	190.7	195.1	82.6
Operations on the male genital organs . . . . . 60-64	233.2	284.2	233.8	244.3	166.1
Prostatectomy . . . . . 60.2-60.6	145.1	147.8	147.3	159.7	116.3
Operations on the female genital organs . . . . . 65-71	921.3	885.2	770.6	1,108.0	824.4
Oophorectomy and salpingo-oophorectomy . . . . . 65.3-65.6	182.7	146.1	181.2	221.6	156.8
Bilateral destruction or occlusion of fallopian tubes . . . . . 66.2-66.3	160.1	123.6	123.6	222.9	134.9
Hysterectomy . . . . . 68.3-68.7	218.0	154.7	207.7	274.9	198.4
Dilation and curettage of uterus . . . . . 69.0	78.0	135.5	48.6	79.8	53.7
Repair of cystocele and rectocele . . . . . 70.5	55.3	33.3	55.3	67.9	56.1
Obstetrical procedures . . . . . 72-75	2,740.4	2,491.9	2,650.3	2,399.1	3,626.5
Episiotomy with or without forceps or vacuum extraction . . . . . 72.1,72.21,72.31,72.71,73.6	672.2	589.3	723.4	675.9	687.5
Artificial rupture of membranes . . . . . 73.0	309.2	272.5	323.0	196.5	509.7
Cesarean section . . . . . 74.0-74.2,74.4,74.99	372.5	298.1	318.1	454.2	372.8
Fetal EKG (scalp) and fetal monitoring, not otherwise specified . . . . . 75.32,75.34	529.4	580.3	539.0	237.9	939.0
Repair of current obstetric laceration . . . . . 75.5-75.6	317.3	285.4	308.2	268.0	437.1
Operations on the musculoskeletal system . . . . . 76-84	1,326.3	1,630.2	1,235.4	1,323.4	1,144.4
Partial excision of bone . . . . . 76.2-76.3,77.6-77.8	86.2	108.5	79.6	85.7	73.2
Open reduction of fracture with internal fixation . . . . . 79.3	166.7	192.3	150.6	188.1	126.3
Excision or destruction of intervertebral disc . . . . . 80.5	122.2	97.7	119.0	144.6	113.0
Total hip replacement . . . . . 81.51	46.6	51.7	48.8	44.0	43.4
Total knee replacement . . . . . 81.54	64.0	62.5	74.4	67.9	47.7
Operations on the integumentary system . . . . . 85-86	528.5	737.2	474.5	531.7	385.6
Mastectomy . . . . . 85.4	47.2	44.3	53.6	49.0	40.1
Debridement of wound, infection, or burn . . . . . 86.22,86.28	130.0	164.4	125.0	134.6	95.7
Skin graft . . . . . 86.6-86.7	39.5	46.4	33.0	43.6	33.7
Miscellaneous diagnostic and therapeutic procedures . . . . . 87-99	5,900.5	8,303.8	4,839.1	5,115.1	6,070.8
Computerized axial tomography . . . . . 87.03,87.41,87.71,88.01,88.38	582.4	893.3	459.0	536.5	499.0
Pyelogram . . . . . 87.73-87.75	97.8	138.8	80.1	110.4	58.3
Arteriography and angiocardiology using contrast material . . . . . 88.4-88.5	685.8	762.2	758.7	748.8	430.3
Diagnostic ultrasound . . . . . 88.7	635.2	883.2	470.8	577.6	676.6
Circulatory monitoring . . . . . 89.6	280.5	398.0	162.7	194.7	438.9
Radioisotope scan . . . . . 92.0-92.1	215.0	340.7	139.1	202.1	201.6
Respiratory therapy . . . . . 93.9	484.5	613.8	359.9	313.1	776.9

<sup>1</sup>The rate per 100,000 population of discharged patients with a coronary bypass graft was 105.8.

NOTE: See "Medical Coding and Edit," Appendix I, for information about changes in coding system and coding modifications for the National Hospital Discharge Survey.



# Appendixes

## Contents

- I. Technical notes on methods. . . . . 53
  - Statistical design of the National Hospital Discharge Survey . . . . . 53
  - Data collection and processing . . . . . 54
  - Presentation of estimates . . . . . 55
  - Estimation procedures . . . . . 57
  - Reliability of estimates . . . . . 58
- II. Definitions of certain terms used in this report . . . . . 61
  - Terms relating to hospitalization . . . . . 61
  - Terms relating to diagnoses . . . . . 61
  - Terms relating to procedures . . . . . 61
  - Demographic terms . . . . . 61

## Appendix figure

- I. Medical abstract for the National Hospital Discharge Survey, 1991 . . . . . 56

## Appendix tables

- I. Definition of noncertainty hospital specialty-size groups used as secondary strata in the National Hospital Discharge Survey 1991 sample design . . . . . 54
- II. Number of hospitals in the National Hospital Discharge Survey universe and sample, number of in-scope and responding sample hospitals, and response rates, by geographic region: United States, 1991. . . . . 54
- III. Civilian population, by selected characteristics: United States, 1991 . . . . . 58
- IV. Estimated parameters for relative standard error equations for National Hospital Discharge Survey statistics, by selected characteristics: United States, 1991 . . . . . 59

# Appendix I

## Technical notes on methods

### Statistical design of the National Hospital Discharge Survey

*Scope of the survey*—The National Hospital Discharge Survey (NHDS) covers discharges from noninstitutional hospitals, exclusive of Federal, military, and Veterans Administration hospitals, located in the 50 States and the District of Columbia. Only short-stay hospitals (hospitals with an average length of stay for all patients of less than 30 days) or those whose specialty is general (medical or surgical), or children's general are included in the survey. These hospitals must also have six beds or more staffed for patient use.

*NHDS history*—The National Center for Health Statistics (NCHS) has conducted the NHDS continuously since 1965. The original sample was selected in 1964 from a frame of short-stay hospitals listed in the National Master Facility Inventory. That sample was updated periodically with samples of hospitals that opened later. Sample hospitals were selected with probabilities ranging from certainty for the largest hospitals to 1 in 40 for the smallest hospitals. Within each sample hospital, a systematic random sample of discharges was selected. A description of the development and design of the original NHDS has been published (1).

Until 1985, all data were collected by a system in which sample selection and transcription of information were done manually. Starting in 1985 some data were also collected using a system in which NCHS purchased data tapes containing discharge medical abstracts from commercial abstracting services and selected the samples from those tapes.

In 1988, the NCHS redesigned the NHDS to link it with other surveys conducted by NCHS and to improve efficiency through use of information and technologies that were not available when the survey was first designed in 1964. Details of the new design are outlined below.

The changes in the survey may affect trend data. That is, some of the differences between NHDS estimates based on the 1965–87 sample and estimates based on the new sample may be due to survey redesign rather than to real changes in hospital utilization.

*New sampling design*—The 1988 NHDS sampling frame consisted of hospitals that were listed in the April 1987 SMG Hospital Market Database (2) and that began to accept inpatients by August 1987. The sampling frame was

updated in 1991 to include hospitals from the 1991 SMG Hospital Market Database (3). The NHDS sample includes with certainty all hospitals with 1,000 beds or more or 40,000 discharges or more annually. The remaining sample of hospitals is based on a stratified three-stage design.

The first stage consists of 112 primary sampling units (PSU's) that comprise a probability subsample of PSU's used in the 1985–94 National Health Interview Survey (NHIS). The PSU's are counties, groups of counties, county equivalents (such as parishes or independent cities), or towns and townships (for some PSU's in New England). The NHDS sample includes with certainty the 26 PSU's with the largest populations. In addition, the sample includes half of the next 26 largest PSU's, and one PSU from each of 73 PSU strata formed from the remaining PSU's for the NHIS sample design. Those 73 PSU strata were defined within four geographical regions and were assigned metropolitan statistical area (MSA) or non-MSA status by using 1980 Census of Population data and a computer program that minimized the between-PSU variances for NHIS stratification variables. (MSA is a metropolitan statistical area defined by the U.S. Office of Management and Budget on the basis of the 1980 Census.) From the 73 strata thus formed, the PSU's were selected with probability proportional to the projected 1985 population. A more detailed analysis of the NHIS PSU sample design is presented in a Series 2 *Vital and Health Statistics* report (6).

The second stage consists of noncertainty hospitals selected from the sample PSU's. To assure distribution of the sample across PSU's and to maximize the potential for automated data collection, the noncertainty hospitals in those PSU's were stratified. The strata were defined by region, PSU, and in the 12 largest PSU's, by abstracting status (whether or not the hospital subscribes to a commercial abstracting service). Within the strata, the hospitals were ordered by PSU, abstracting service status, and the hospital specialty-size groups defined in table I. Within each specialty-size group, hospitals were arrayed by their annual numbers of discharges recorded in the April 1987 SMG Hospital Market Database. Hospitals were then selected from each stratum's ordered array by systematic random sampling with probability proportional to their SMG recorded 1987 annual numbers of discharges. The sampling rates were such that at least three hospitals were

**Table I. Definition of noncertainty hospital specialty-size groups used as secondary strata in the National Hospital Discharge Survey 1991 sample design**

<i>Hospital group</i>	<i>Bed size</i>	<i>Type of service</i>
Group 1 . . . . .	6–999 beds	Selected specialties <sup>1</sup>
Group 2 . . . . .	6–174 beds	General (medical and surgical) and other specialties <sup>2</sup>
Group 3 . . . . .	175–349 beds	General (medical and surgical) and other specialties <sup>2</sup>
Group 4 . . . . .	350–999 beds	General (medical and surgical) and other specialties <sup>2</sup>

<sup>1</sup>Includes psychiatry; tuberculosis and other respiratory disease; rehabilitation; chronic disease; mental retardation; alcoholism and other chemical dependency; and children's psychiatry.

<sup>2</sup>"Other specialties" include: obstetrics and gynecology; eye, ear, nose, and throat; orthopedics; other specialty; children's general; children's tuberculosis and other respiratory disease; children's eye, ear, nose, and throat; children's rehabilitation; children's orthopedics; children's chronic disease; and children's other specialty.

**Table II. Number of hospitals in the National Hospital Discharge Survey universe and sample, number of in-scope and responding sample hospitals, and response rates, by geographic region: United States, 1991**

<i>Geographic region</i>	<i>Universe</i>	<i>Total sample</i>	<i>Sample in-scope<sup>1</sup></i>	<i>Respondents<sup>2</sup></i>	<i>Response rate</i>
		<i>Number</i>			<i>Percent</i>
All regions . . . . .	6,250	528	521	484	93
Northeast . . . . .	917	113	112	106	95
Midwest . . . . .	1,740	117	115	104	90
South . . . . .	2,387	217	215	202	94
West . . . . .	1,206	81	79	72	91

<sup>1</sup>Excludes hospitals that for the whole year either were out of business or failed to meet the definition of a general, a children's general, or a short-stay hospital.

<sup>2</sup>Hospitals for which data were collected by the National Center for Health Statistics for at least half the number of sample discharges expected in half or more of the months the hospitals were in scope.

selected from every PSU containing three eligible hospitals or more. In PSU's with fewer than three hospitals, all hospitals in the PSU were selected. For 1991, the sample consisted of 528 hospitals. Of the 528 hospitals, 7 were found to be out of scope (ineligible) because prior to 1991 they went out of business or otherwise failed to meet the criteria for the NHDS universe. Of the 521 in-scope (eligible) hospitals, 484 hospitals responded (NCHS collected data for at least half of the number of sample discharges expected in half or more of the months these hospitals were in scope). The number of hospitals in the universe, the sample, and the responding sample are shown by region in table II.

At the third stage, a sample of discharges from each hospital was selected by a systematic random sampling technique. For hospitals using the manual system of data collection, the discharges were selected at the hospital from daily listing sheets, computer files, or other lists in which discharges were listed in some chronological order. For most of these hospitals, the sample discharges were selected on the basis of the terminal digit(s) of the patient's medical record number. In some cases, an admission number, billing number, or other number was used. If no patient numbers useful for sampling purposes were available in a hospital's list of discharges, the sample was selected by starting with a randomly selected discharge and taking every *k*th discharge thereafter.

For hospitals whose data were collected via the automated system, the discharges were selected by NCHS from discharge medical abstract files after sorting by the first two digits of the ICD-9-CM code of the first-listed

diagnosis, patient age group at time of admission (under 1 year, 1–14 years, 15–44 years, 45–64 years, 65–74 years, 75–84 years, 85 years and over, and age unknown), sex, and date of discharge. These samples were selected by starting with a randomly selected discharge and taking every *k*th discharge thereafter.

The third-stage sampling rate was determined by the hospital's sampling stratum and the system (manual or automated) used to collect data from the hospital. One percent and 5 percent of discharges in the certainty hospitals were selected under the manual and automated systems, respectively. Except for certainty hospitals, the target sample size was 250 discharges each from all manual system hospitals and from the automated system hospitals that had fewer than 4,000 discharges annually according to the 1987 sampling frame data. Samples of 2,000 were targeted for each of the remaining noncertainty automated system hospitals. The final sample for 1991 included about 266,000 discharge medical record abstracts.

## Data collection and processing

*Data collection*—Two data collection procedures were used for the survey. One was a manual system of sample selection and data abstraction. The other was an automated method, used with approximately 33 percent of the respondent hospitals in 1991, that involved the purchase of data tapes from abstracting service organizations and selected state systems.

In the manual system, the sample selection and the transcription of information from the hospital records to abstract forms were performed at the hospitals. The completed forms, along with sample selection control sheets, were then forwarded to NCHS for coding, editing, and weighting. A few of these hospitals submitted their data via computer printout or tape. Of the hospitals using the manual system in 1991, about two-thirds had the work performed by their own medical records staff. In the remaining hospitals using the manual system, personnel of the U.S. Bureau of the Census did this work on behalf of NCHS. For the automated system, NCHS purchased tapes containing machine-readable medical record data and selected sample discharges from these tapes.

Figure I shows the information collection form used in 1991. This form and the records on abstract service data tapes contain items relating to personal characteristics of the patient, including birth date, sex, race, ethnicity, marital status, ZIP Code (but not name and address), and expected sources of payment; administrative information, including admission and discharge dates, discharge status, and medical record number; and medical information, including diagnoses, surgical and nonsurgical operations or procedures, and dates of surgery. These data items conform with the Uniform Hospital Discharge Data Set (UHDDS) (7). The PSU, hospital name, medical record number, date of birth, and patient ZIP Code are confidential information and are not available to the public.

*Medical coding and edit*—The medical information recorded on the sample patient abstracts that was collected by the manual system was coded by NCHS staff. A maximum of seven diagnostic codes were assigned for each sample abstract; in addition, if the medical information included surgical or nonsurgical procedures, a maximum of four codes for these procedures were assigned. The system currently used for coding the diagnoses and procedures on the medical abstract forms, as well as the data that appear on the commercial abstracting services data tapes, is the *International Classification of Diseases, 9th Revision, Clinical Modification*, or ICD-9-CM (4).

Although the ICD-9-CM has been used for coding NHDS data since 1979, it should be noted that this coding system is not static, but undergoes periodic updating. The volumes used to code the 1991 data are the third edition of the ICD-9-CM. Beginning October 1, 1986, annual addenda to the ICD-9-CM have been published. These addenda, which go into effect on October 1 of affected years, add, delete, or change codes. The actual dates when these coding changes go into effect vary by source of data. Thus for a given data year different codes may refer to the same diagnosis or procedure. Because data are generally presented in this report by aggregated groups of codes, the coding changes have had limited impact.

With two exceptions, the order of diagnoses and procedures for sampled discharges is preserved to reflect the order on the medical record fact sheet or in the abstracting service file. One exception is for women

admitted for delivery. In this case, a code of V27 from the supplemental classification must be assigned and it must be listed first. In the other exception, a decision was made to reorder some acute myocardial infarction diagnoses based on accepted medical coding practice. Whenever an acute myocardial infarction is encountered with other circulatory diagnoses and is other than the first entry, it must be reordered to first position.

An ongoing quality control program is undertaken on the coding and entering of data from abstracts to machine readable form. Approximately 5 percent of the abstracts are independently recoded by an NHDS coder, with discrepancies resolved by the chief coder. The overall error rate for records manually coded by NCHS for the 1991 data year was 2.4 percent for medical (ICD-9-CM) coding and entering and 0.6 percent for demographic coding and entering.

Following conversion of the data on the medical abstract to computer tape and combining the data with the automated data tapes, a final medical edit was performed by computer inspection and by a manual review of rejected abstracts. If the sex or age of the patient was incompatible with the recorded medical information, priority was given to the medical information in the editing decision.

## Presentation of estimates

*Grouping of diagnoses and procedures*—In this report, the broadest groupings of disease and injuries shown correspond to ICD-9-CM chapters 1-17 and the supplementary classification of factors influencing health status and contact with health services. The diagnostic categories, the most detailed groupings of diseases and injuries shown, are subsets of the major groups or chapters. The titles and the ordering of the categories in the tabular list developed for NHDS follow the format of the ICD-9-CM tabular list as closely as possible.

The procedure groupings used in this report are the groups numbered 1-16 in the ICD-9-CM section entitled "Procedure Classification." Specific categories of operations or procedures, the most detailed of these groupings shown, are subsets of the major groups and are based on the four-digit codes provided by the ICD-9-CM.

In developing tables of diagnoses and of procedures, an effort was made to present data for the most frequently occurring conditions or procedures, as well as those of significant public health interest.

*Patient characteristics not stated*—Age or sex of the patient were not stated for about 1.1 percent of the sample discharges for 1991. These data were imputed by assigning the patient an age or sex consistent with the age or sex of other sampled patients with the same diagnostic code. Data on race were not available for 21.6 percent of the discharges, and missing values were not imputed. During 1991, 0.7 percent of the sampled records lacked an admission or discharge date. For these cases a length of

**MEDICAL ABSTRACT – NATIONAL HOSPITAL DISCHARGE SURVEY**

stay was imputed based on age unless the discharge was a newborn or a female with delivery, in which case a length of stay was assigned similar to the length of stay of sampled cases in these categories.

In addition to the edits performed by NCHS, data obtained through the automated system may have been edited by an abstract service and had data imputed. The extent of this imputation, if any, is unknown.

*Rounded numbers*—Estimates in this report have been rounded. Therefore, detailed figures may not add to totals. Rates and percents were calculated using unrounded figures and may not agree with computations made from the rounded data.

*Population estimates*—The population estimates used in computing rates are from published and unpublished estimates for the U.S. civilian population, including institutionalized persons, on July 1 of the data year provided by the U.S. Bureau of the Census. The estimates by age, sex, race, and geographic region are presented in table III and are consistent with the population estimates published in *Current Population Reports*, Series P-25. Rates computed using these population estimates will be overestimates to the extent that military personnel and non-U.S. citizens use NHDS-eligible hospitals and will be underestimates to the extent that civilians (for example, military dependents or retirees) use hospitals that are not in the NHDS universe, that is, hospitals that are institutional, Federal, military, veteran, or long-stay hospitals that are not general, maternal, or children's general hospitals.

*Published and flagged estimates*—Estimates are not presented unless a reasonable assumption regarding the probability distribution of the sampling error is possible on the basis of the Central Limit Theorem. The Central Limit Theorem states that, given a sufficiently large sample size, the sample estimate approximates the population estimate, and upon repeated sampling, its distribution would be approximately normal.

Because of the complex sample design of the NHDS, estimates of less than 5,000 are not presented; only an asterisk (\*) appears in the tables. These estimates generally have a relative standard error of more than 30 percent or are based on a sample of less than 30 cases. Estimates of 5,000–9,000 are presented with an asterisk (\*) to indicate that they may not be reliable. These estimates are generally based on less than 60 cases.

## Estimation procedures

Statistics from NHDS are derived by a multistage estimation procedure that produces essentially unbiased national estimates and has three basic components: (1) inflation by reciprocals of the probabilities of sample selection, (2) adjustment for nonresponse, and (3) population weighting ratio adjustments. The second and third components were made separately by admission types—that is, for discharges of newborn infants (whose hospital stay began with their own births) and for discharges to other than newborn infants.

*Inflation by reciprocals of probabilities of selection*—There is one probability for each stage of sampling: (a) the probability of selecting the PSU, (b) the probability of selecting the hospital, and (c) the probability of selecting the discharge within the hospital. The last probability varies monthly and is calculated to be the sample size from the hospital for the month divided by the total number of discharges occurring at the hospital that month. The overall probability of selection is the product of the probabilities at each stage. The inverse of the overall selection probability is the basic inflation weight.

*Adjustment for nonresponse*—NHDS data were adjusted to account for two types of nonresponse. The first type of nonresponse occurred when an in-scope (NHDS-eligible) sample hospital did not respond for more than half of the months during which it was in scope, thus making it a nonrespondent hospital. In this case, the weights of discharges from hospitals similar to the nonrespondent hospitals were inflated to account for discharges represented by the nonrespondent hospitals. For this purpose, hospitals were judged to be similar if they were in the same region, hospital specialty-size group, and if possible, the same sampling stratum (that is, the same abstracting status group if the nonrespondent hospital was in the 12 largest PSU's and in the same PSU, otherwise). The adjustments for this nonresponse were made separately for admission types—that is, for discharges of newborn infants and for all other discharges. The adjustment consisted of a ratio for which the numerator was the weighted number of discharges of the admission type in all similar sample hospitals (regardless of response status) and the denominator was the weighted total of discharges of that admission type from the hospitals similar to the nonrespondent hospitals. Data on the number of discharges for each admission type for each hospital came from either the hospitals or the April 1992 SMG Hospital Market Database (8).

The second type of nonresponse occurred when NCHS failed to collect all the discharge abstracts expected (the number expected is the product of the hospital's total discharges each month and the discharge sampling rate assigned to the hospital). In each month when the hospital was respondent (at least half the expected abstracts were collected), the weights of abstracts collected for the month were inflated to account for the missing abstracts. For a hospital's month(s) of nonresponse, the weights of discharges in the hospital's respondent months were inflated by ratios that varied with discharge groups defined by the ICD-9-CM diagnostic classes of those discharges' first-listed diagnoses. The adjustment ratio for each partially respondent hospital and each discharge group was calculated using only data from sample hospitals that were both NHDS eligible and respondent for all 12 months of the data year. The ratio had as its numerator the weighted sum of discharges in that discharge group for all months in which the partially respondent hospital was in scope and had as its denominator the weighted sum of discharges in that discharge group

**Table III. Civilian population by selected characteristics: United States, 1991**

[Population estimates consistent with Series P-25, Current Population Reports, U.S. Bureau of the Census]

Age, geographic region, and race	Both sexes	Male	Female	Age, geographic region, and race	Both sexes	Male	Female
All ages				All ages			
Population in thousands				Population in thousands			
Total . . . . .	250,566	121,539	129,027	15–44 years—Con.			
Region:				Race:			
Northeast . . . . .	50,871	24,433	26,439	White. . . . .	96,715	48,424	48,291
Midwest . . . . .	60,090	29,139	30,951	Black. . . . .	15,045	7,087	7,958
South . . . . .	85,788	41,456	44,612	All other . . . . .	5,213	2,551	2,661
West . . . . .	53,537	26,511	27,026				
Race:				45–64 years			
White. . . . .	209,647	102,132	107,515	Total . . . . .	46,710	22,461	24,249
Black. . . . .	30,854	14,492	16,362	45–54 years . . . . .	25,706	12,51	13,175
All other . . . . .	10,065	4,915	5,150	55–64 years . . . . .	21,004	9,931	11,073
Under 15 years				Region:			
Total . . . . .	55,130	28,224	26,906	Northeast . . . . .	9,939	4,729	5,209
Under 1 year . . . . .	4,011	2,052	1,959	Midwest . . . . .	11,206	5,414	5,792
1–4 years . . . . .	15,210	7,784	7,426	South . . . . .	16,185	7,727	8,458
5–14 years . . . . .	35,909	18,389	17,520	West . . . . .	9,379	4,590	4,789
Region:				Race:			
Northeast . . . . .	10,263	5,256	5,007	White. . . . .	40,428	19,626	20,802
Midwest . . . . .	13,350	6,837	6,513	Black. . . . .	4,687	2,088	2,600
South . . . . .	18,957	9,695	9,261	All other . . . . .	1,594	747	847
West . . . . .	12,561	6,436	6,125				
Race:				65 years and over			
White. . . . .	43,924	22,546	21,378	Total . . . . .	31,753	12,791	18,963
Black. . . . .	8,568	4,335	4,233	65–74 years . . . . .	18,280	8,022	10,258
All other . . . . .	2,638	1,344	1,295	75–84 years . . . . .	10,314	3,888	6,426
15–44 years				85 years and over . . . . .	3,160	881	2,279
Total . . . . .	116,973	58,063	58,909	Region:			
15–24 years . . . . .	35,727	18,011	17,715	Northeast . . . . .	7,043	2,758	4,287
25–34 years . . . . .	42,249	20,873	21,376	Midwest . . . . .	7,857	3,135	4,722
35–44 years . . . . .	38,997	19,178	19,819	South . . . . .	10,942	4,409	6,532
Region:				West . . . . .	5,911	2,488	3,424
Northeast . . . . .	23,625	11,689	11,936	Race:			
Midwest . . . . .	27,676	13,753	13,925	White. . . . .	28,580	11,536	17,044
South . . . . .	39,984	19,624	20,361	Black. . . . .	2,553	982	1,572
West . . . . .	25,687	12,997	12,690	All other . . . . .	620	273	347

that occurred in the months when the partially respondent hospital did respond to the NHDS.

*Population weighting ratio adjustment*—Adjustments were made within each of 16 noncertainty hospital groups defined by region and hospital specialty-size classes to adjust for oversampling or undersampling of discharges reported in the sampling frame for the data year. For discharges other than newborn infants, the adjustment is a multiplicative factor that had as its numerator the number of admissions reported for the year at sampling frame hospitals within each region-specialty-size group and as its denominator the estimated number of those admissions for that same hospital group. The adjustment for discharges of newborn infants was similar, but numbers of births were used in place of admissions. The ratio numerators were based on the figures obtained from the SMG Hospital Market Database (8) and the ratio denominators were obtained through a simple inflation of the SMG figures for the NHDS sample hospitals.

## Reliability of estimates

*Nonsampling errors*—As from any survey, results are subject to nonsampling errors, which include errors that are due to sampling frame errors, hospital nonresponse, missing abstracts, and recording processing errors. The magnitude of the nonsampling errors cannot be determined. However, errors resulting from the exclusion of in-scope hospitals from the sampling frame are believed to be small because the hospitals excluded are hospitals that opened after the frame was constructed and, hence, they tend to have few discharges relative to hospitals that are in the frame. Other nonsampling errors are kept to a minimum by methods built into the survey procedures, such as training the data collectors in sampling and data abstraction, quality checks of sampling and abstracting, manual and computer editing, and verification of keypunching and coding. Some nonsampling errors are discussed under “Presentation of estimates.”

**Table IV. Estimated parameters for relative standard error equations for National Hospital Discharge Survey statistics by selected characteristics: United States, 1991**

Characteristic	Number of discharges or first-listed diagnoses		Number of all-listed diagnoses		Number of days of care		Number of procedures	
	a	b	a	b	a	b	a	b
Total . . . . .	0.00101	546.321	0.00112	589.046	0.00173	2,343.213	0.00153	427.265
Sex								
Male . . . . .	0.00447	213.042	0.00340	256.740	0.00518	5,120.963	0.00568	139.827
Female . . . . .	0.00099	442.186	0.00114	404.633	0.00194	1,634.957	0.00164	342.466
Age								
Under 15 years . . . . .	0.01786	65.842	0.01788	74.015	0.07618	737.582	0.03313	53.065
15-44 years . . . . .	0.00956	111.147	0.00395	228.512	0.02384	475.352	0.00986	87.726
45-64 years . . . . .	0.01292	44.094	0.01283	43.455	0.02949	92.219	0.01182	125.847
65 years and over . . . . .	0.01149	25.788	0.01324	26.710	0.01849	25.558	0.01629	12.837
Region								
Northeast . . . . .	0.00293	243.156	0.00688	684.720	0.00451	1,967.234	0.00746	181.945
Midwest . . . . .	0.00603	331.780	0.00629	422.099	0.01037	608.558	0.00781	333.914
South . . . . .	0.00247	547.686	0.00289	631.339	0.00400	1,435.185	0.00298	468.737
West . . . . .	0.00513	403.340	0.00394	426.981	0.00891	871.769	0.00753	251.058
Source of payment								
Worker's compensation . . . . .	0.00250	588.807	0.00313	1,639.248	0.00393	12,444.000	-0.00116	2,181.297
Medicare . . . . .	0.00548	883.428	0.00353	3,623.733	0.00456	6,548.842	0.02736	232.797
Medicaid . . . . .	0.00348	1,979.378	0.00187	6,418.479	0.00136	18,545.000	0.00649	3,457.633
Not stated . . . . .	0.04490	639.387	0.05308	1,864.231	0.05367	3,639.382	0.07787	548.170
Other Government . . . . .	0.08079	177.390	0.07414	836.713	0.04261	988.154	0.09720	319.395
Private . . . . .	0.00148	780.110	0.00137	4,173.164	0.00169	12,606.000	0.00179	2,525.008
Self . . . . .	0.00244	662.998	0.00196	3,122.322	0.00399	5,923.664	0.00351	1,511.651
No charge/other . . . . .	0.02235	407.608	0.02406	1,297.668	0.02240	2,779.271	0.07391	1,138.992
Race								
White . . . . .	0.00234	927.094	0.00237	777.966	0.00360	2,087.655	0.00298	371.348
Black . . . . .	0.00569	273.368	0.00621	283.703	0.00926	1,034.092	0.01000	356.748
All other . . . . .	0.02889	280.075	0.03698	356.210	0.04980	253.439	0.03328	191.506
Not stated . . . . .	0.01666	427.619	0.01895	793.131	0.02339	966.802	0.02247	228.166

NOTE: The relative standard error (RSE) for an estimate ( $X$ ), expressed as a percent of  $X$ , can be determined from the equation  $RSE(X) = 100 \sqrt{a + b/X}$ .

**Sampling errors**—Because the statistics presented in this report are based on a sample, they may differ from the figures that would be obtained if a complete census had been taken using the same forms, definitions, instructions, and procedures. However, the probability design of NHDS permits the calculation of sampling errors. The standard error is primarily a measure of sampling variability that occurs by chance because only a sample rather than the entire population is surveyed. The standard error, as calculated for the NHDS, also reflects part of the variation that arises in the measurement process, but does not include estimates of any systematic bias. The chances are about 68 in 100 that an estimate from the sample would differ from a complete census by less than the standard error. The chances are about 95 in 100 that the difference would be less than twice the standard error, and about 99 in 100 that it would be less than 2.5 times as large.

The relative standard error of an estimate is obtained by dividing the standard error by the estimate. The result-

ing value is multiplied by 100, which expresses the relative standard error as a percent of the estimate.

Estimates of sampling variability were calculated with SESUDAAN software, which computes standard errors by using a first-order Taylor approximation of the deviation of estimates from their expected values. A description of the software and the approach it uses was published (9).

**Relative standard errors for aggregate estimates**—The constants for relative standard error curves for the National Hospital Discharge Survey aggregate statistics by statistic type are presented in table IV. The relative standard error [ $RSE(X)$ ] of an estimate  $X$ , expressed as a percent of  $X$  may be estimated from the formula:

$$RSE(X) = 100 \sqrt{a + b/X}$$

where  $X$ ,  $a$ , and  $b$  are as defined in table IV.



*Relative standard errors for estimates of percents*—The relative standard error for a percent  $100p$  ( $0 < p < 1$ ), expressed as a percent of  $p$  may be calculated directly using the formula:

$$\text{RSE}(p) = 100 \sqrt{b(1-p)/(pX)}$$

where  $100p$  is the percent of interest,  $X$  is the base of the percent, and  $b$  is the parameter  $b$  in the formula for approximating the  $\text{RSE}(X)$ . The values for  $b$  are given in table IV.

The approximation is valid if the relative standard error of the denominator is less than 5 percent or the relative standard errors of the numerator and denominator are both less than 10 percent (10,11).

*RSE for average length of stay and other averages, ratios, or rates where the numerator is not a subclass of the denominator*—If the denominator of the rate is a number produced by the U.S. Bureau of the Census for the total U.S. population or one or more of the age-sex-race groups of the total population, then the approximate relative standard error of the rate is equivalent to the relative standard error of the numerator that can be obtained from table IV.

If the numerator  $X$  and denominator  $Y$  are both estimated from the NHDS, then the relative standard error of the ratio  $X/Y$ , expressed as a percent of  $X/Y$ , is approximated by

$$\text{RSE}(X/Y) = 100 \sqrt{[\text{RSE}(X)]^2 + [\text{RSE}(Y)]^2}$$

This approximation is valid if the relative standard error of the denominator is less than 5 percent or the relative standard errors of the numerator and denominator are both less than 10 percent (10,11).

*Estimates of differences between two statistics*—The relative standard errors shown in this appendix are not directly applicable to differences between two sample estimates. The standard error of a difference is approximately the square root of the sum of squares of each standard error considered separately. This formula represents the standard error quite accurately for the difference between separate and uncorrelated characteristics, although it is only a rough approximation in most other cases.

*Tests of significance*—In this report, the determination of statistical inference is based on the two-sided  $t$ -test with a critical value of 1.96 (0.05 level of significance). Terms such as “higher” and “less” that relate to differences are statistically significant. Terms such as “similar” or “no difference” mean that no statistically significant difference exists between the estimates being compared. A lack of comment on the difference between any two estimates does not mean that the difference was tested and found not significant.

## Appendix II

### Definitions of certain terms used in this report

#### Terms relating to hospitalization

*Hospitals*—All hospitals with an average length of stay for all patients of less than 30 days or hospitals whose specialty is general (medical or surgical) or children's general are eligible for inclusion in the National Hospital Discharge Survey except Federal hospitals and hospital units of institutions, and hospitals with less than six beds staffed for patients' use.

*Patient*—A person who is formally admitted to the inpatient service of a short-stay hospital for observation, care, diagnosis, or treatment. The terms "patient" and "inpatient" are used synonymously.

*Newborn infant*—A patient admitted by birth to a hospital.

*Discharge*—The formal release of a patient by a hospital; that is, the termination of a period of hospitalization by death or by disposition to place of residence, nursing home, or another hospital. The terms "discharges" and "patients discharged" are used synonymously.

*Discharge rate*—The ratio of the number of hospital discharges during a year to the number of persons in the civilian population on July 1 of that year.

*Days of care*—The number of patient days accumulated at time of discharge by a patient. A stay of less than 1 day (patient admission and discharge on the same day) is counted as 1 day in the summation of total days of care. For patients admitted and discharged on different days, the number of days of care is computed by counting all days from (and including) the date of admission to (but not including) the date of discharge.

*Rate of days of care*—The ratio of the number of days of care accumulated during a year to the number of persons in the civilian population on July 1 of that year.

*Average length of stay*—The number of days of care accumulated by patients discharged during the year divided by the number of these patients.

#### Terms relating to diagnoses

*Diagnosis*—A disease or injury (or factor that influences health status and contact with health services that is not itself a current illness or injury) listed on the medical record of a patient. (See "Medical coding and edit" in the "Data collection and processing" section of appendix I for further detail.)

*Principal diagnosis*—The condition established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care.

*First-listed diagnosis*—The coded diagnosis identified as the principal diagnosis or listed first on the face sheet or discharge summary of the medical record if the principal diagnosis cannot be identified. The number of first-listed diagnoses is equivalent to the number of discharges.

*All-listed diagnoses*—The number of diagnoses on the face sheet of the medical record. In the NHDS a maximum of seven diagnoses are coded.

#### Terms relating to procedures

*Discharges with procedures*—The estimated number of patients discharged from non-Federal short-stay hospitals during the year who underwent at least one procedure during their hospitalization are termed "discharges with procedures."

*Procedure*—A surgical or nonsurgical operation, diagnostic procedure, or special treatment reported on the medical record of a patient. (See "Medical coding and edit" in the "Data collection and processing" section of appendix I for further details.) Beginning with the 1991 data, all ICD-9-CM procedure codes are used in the NHDS. Previously selected codes, primarily codes for miscellaneous diagnostic and therapeutic codes, were not used.

*All-listed procedures*—The number of procedures on the face sheet of the medical record. In the NHDS a maximum of four procedures are coded.

*Surgical operations*—All procedures except those listed under "nonsurgical procedures" are listed as surgical operations.

*Nonsurgical procedures*—Procedures generally not considered to be surgery are listed as nonsurgical procedures. These include diagnostic endoscopy and radiography, radiotherapy and related therapies, physical medicine and rehabilitation, and other nonsurgical procedures. The following ICD-9-CM are for diagnostic and nonsurgical procedures:

01.18–01.19, 03.31, 03.39, 04.19, 05.19, 06.19, 07.19, 08.19, 09.19, 09.41–09.49, 10.29, 11.29, 12.29, 14.19, 15.09, 16.21, 16.29, 18.01, 18.11, 18.19, 20.31, 20.39, 21.00–21.02, 21.21, 21.29, 22.19, 24.19, 25.09, 26.19, 27.29, 28.19, 29.11, 29.19,

31.41–31.42, 31.48–31.49, 33.21–33.23, 33.29, 34.21–34.22, 34.28–34.29, 37.26–37.27, 37.29, 38.29, 39.95, 40.19, 41.38–41.39, 42.22–42.23, 42.29, 44.11–44.13, 44.19, 45.11–45.13, 45.19, 45.21–45.24, 45.28–45.29, 48.21–48.23, 48.29, 49.21, 49.29, 50.19, 51.10–51.11, 51.19, 52.19, 54.21, 54.29, 55.21–55.22, 55.29, 56.31, 56.35, 56.39, 57.31–57.32, 57.39, 57.94–57.95, 58.21–58.22, 58.29, 59.29, 60.18–60.19, 61.19, 62.19, 63.09, 64.19, 64.94, 65.19, 66.19, 67.19, 68.11, 68.19, 69.92, 70.21–70.22, 70.29, 71.19, 73.4, 73.51–73.59, 73.91–73.92, 75.31–75.32, 75.34–75.35, 75.94, 76.19, 78.80–78.89, 80.20–80.29, 81.98, 83.29, 84.41–84.43, 84.45–84.47, 85.19, 86.19, 86.92, 87–99.

*Rate of procedures*—The ratio of the number of procedures during a year to the number of persons in the civilian population on July 1 of that year determines the rate of procedures.

## Demographic terms

*Population*—The United States resident population excluding members of the Armed Forces.

*Age*—Patient's age at birthday prior to admission to the hospital.

*Race*—Patients are classified into three groups, "white," "black," and "all other," with all other including all categories other than white or black. In addition, 21.6 percent of the patients had no race stated on the face sheet of the medical record.

*Geographic region*—Hospitals are classified by location in one of the four geographic regions of the United States that correspond to those used by the U.S. Bureau of the Census.

<i>Region</i>	<i>States included</i>
Northeast	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania
Midwest	Michigan, Ohio, Illinois, Indiana, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas
South	Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas
West	Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Hawaii, and Alaska

# Vital and Health Statistics series descriptions

- SERIES 1. Programs and Collection Procedures** – These reports describe the data collection programs of the National Center for Health Statistics. They include descriptions of the methods used to collect and process the data, definitions, and other material necessary for understanding the data.
- SERIES 2. Data Evaluation and Methods Research** – These reports are studies of new statistical methods and include analytical techniques, objective evaluations of reliability of collected data, and contributions to statistical theory. These studies also include experimental tests of new survey methods and comparisons of U.S. methodology with those of other countries.
- SERIES 3. Analytical and Epidemiological Studies** – These reports present analytical or interpretive studies based on vital and health statistics. These reports carry the analyses further than the expository types of reports in the other series.
- SERIES 4. Documents and Committee Reports** – These are final reports of major committees concerned with vital and health statistics and documents such as recommended model vital registration laws and revised birth and death certificates.
- SERIES 5. International Vital and Health Statistics Reports** – These reports are analytical or descriptive reports that compare U.S. vital and health statistics with those of other countries or present other international data of relevance to the health statistics system of the United States.
- SERIES 6. Cognition and Survey Measurement** – These reports are from the National Laboratory for Collaborative Research in Cognition and Survey Measurement. They use methods of cognitive science to design, evaluate, and test survey instruments.
- SERIES 10. Data From the National Health Interview Survey** – These reports contain statistics on illness; unintentional injuries; disability; use of hospital, medical, and other health services; and a wide range of special current health topics covering many aspects of health behaviors, health status, and health care utilization. They are based on data collected in a continuing national household interview survey.
- SERIES 11. Data From the National Health Examination Survey, the National Health and Nutrition Examination Surveys, and the Hispanic Health and Nutrition Examination Survey** – Data from direct examination, testing, and measurement on representative samples of the civilian noninstitutionalized population provide the basis for (1) medically defined total prevalence of specific diseases or conditions in the United States and the distributions of the population with respect to physical, physiological, and psychological characteristics, and (2) analyses of trends and relationships among various measurements and between survey periods.
- SERIES 12. Data From the Institutionalized Population Surveys** – Discontinued in 1975. Reports from these surveys are included in Series 13.
- SERIES 13. Data From the National Health Care Survey** – These reports contain statistics on health resources and the public's use of health care resources including ambulatory, hospital, and long-term care services based on data collected directly from health care providers and provider records.
- SERIES 14. Data on Health Resources: Manpower and Facilities** – Discontinued in 1990. Reports on the numbers, geographic distribution, and characteristics of health resources are now included in Series 13.
- SERIES 15. Data From Special Surveys** – These reports contain statistics on health and health-related topics collected in special surveys that are not part of the continuing data systems of the National Center for Health Statistics.
- SERIES 16. Compilations of Advance Data From Vital and Health Statistics** – Advance Data Reports provide early release of information from the National Center for Health Statistics' health and demographic surveys. They are compiled in the order in which they are published. Some of these releases may be followed by detailed reports in Series 10–13.
- SERIES 20. Data on Mortality** – These reports contain statistics on mortality that are not included in regular, annual, or monthly reports. Special analyses by cause of death, age, other demographic variables, and geographic and trend analyses are included.
- SERIES 21. Data on Natality, Marriage, and Divorce** – These reports contain statistics on natality, marriage, and divorce that are not included in regular, annual, or monthly reports. Special analyses by health and demographic variables and geographic and trend analyses are included.
- SERIES 22. Data From the National Mortality and Natality Surveys** – Discontinued in 1975. Reports from these sample surveys, based on vital records, are now published in Series 20 or 21.
- SERIES 23. Data From the National Survey of Family Growth** – These reports contain statistics on factors that affect birth rates, including contraception, infertility, cohabitation, marriage, divorce, and remarriage; adoption; use of medical care for family planning and infertility; and related maternal and infant health topics. These statistics are based on national surveys of childbearing age.
- SERIES 24. Compilations of Data on Natality, Mortality, Marriage, Divorce, and Induced Terminations of Pregnancy** – These include advance reports of births, deaths, marriages, and divorces based on final data from the National Vital Statistics System that were published as supplements to the *Monthly Vital Statistics Report (MVSR)*. These reports provide highlights and summaries of detailed data subsequently published in *Vital Statistics of the United States*. Other supplements to the MVSR published here provide selected findings based on final data from the National Vital Statistics System and may be followed by detailed reports in Series 20 or 21.

For answers to questions about this report or for a list of reports published in these series, contact:

Scientific and Technical Information Branch  
National Center for Health Statistics  
Centers for Disease Control and Prevention  
Public Health Service  
6525 Belcrest Road, Room 1064  
Hyattsville, MD 20782  
(301) 436-8500

**DEPARTMENT OF  
HEALTH & HUMAN SERVICES**

Public Health Service  
Centers for Disease Control and Prevention  
National Center for Health Statistics  
6525 Belcrest Road  
Hyattsville, Maryland 20782

---

OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE, \$300

BULK RATE  
POSTAGE & FEES PAID  
PHS/NCHS  
PERMIT NO. G-281